Exhibit 3

In Re Lehman Brothers Securities and ERISA Litigation

Expert Report of Professor Allen Ferrell

October 21, 2013

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I. Qualifications

1. I am an economist and the Greenfield Professor of Securities Law at Harvard Law School. I received a Ph.D. in economics from the Massachusetts Institute of Technology with fields in econometrics and finance and a J.D. from Harvard Law School. My Ph.D. concerned the relationship between stock prices and financial disclosures. After law school I clerked for Judge Silberman of the United States Court of Appeals for the D.C. Circuit and Justice Kennedy of the Supreme Court of the United States.

2. I am also a faculty associate at the Kennedy School of Government at Harvard, a fellow at Columbia University's Program on the Law and Economics of Capital Markets, a member of the American Law Institute Project on the Application of U.S. Financial Regulations to Foreign Firms and Cross-Border Transactions, a research associate at the European Corporate Governance Institute, and a member of the editorial board of the *Journal of Financial Perspectives*. I formerly was Chairperson of Harvard's Advisory Committee on Shareholder Responsibility (which is responsible for advising the Harvard Corporation on how to vote shares held by its endowment), a member of the Board of Economic Advisors to the Financial Industry Regulatory Authority ("FINRA"), an academic fellow at FINRA, a member of the ABA Task Force on Corporate Governance, and an executive member of the American Law School section on securities regulation.

3. I have testified before the U.S. Senate Subcommittee on Securities, Insurance, and Investment and presented to, among others, the Securities and Exchange Commission ("SEC"), the World Bank, International Monetary Fund, the Structured Products Association, and the National Bureau of Economic Research. I have published approximately 30 articles in leading journals in the general areas of law and finance, including papers on securities damages, materiality, and event study analysis. I have also been an expert witness in a variety of securities matters. My testimony in the last four years and academic work are summarized on my curriculum vitae, which is attached hereto as Appendix A.

4. I am being compensated at my customary hourly rate of $950 for my work on this matter. My compensation is not contingent on the outcome of this matter. I have received the assistance of the staff employed by Cornerstone Research.

II. Scope And Summary Of Expert Report

5. I have been retained by counsel for Ernst & Young LLP ("EY"). I understand that the multi-district litigation captioned *In re Lehman Brothers Securities and ERISA Litigation*, No. 09-md-2017 (S.D.N.Y.), now consists of a number of individual suits involving EY. I have been asked by counsel to assume that the relevant allegations to address are that EY issued clean audit opinions and review reports on the financial statements of Lehman Brothers Holdings, Inc. ("Lehman") that were allegedly false and misleading with respect to Lehman's financial reporting for Repo 105s,[1] which allegedly artificially reduced Lehman's net leverage ratio and the overall size of its balance sheet.[2, 3]

6. I have been asked to address certain issues with regard to these allegedly false and misleading statements. Specifically, I have been asked to assess the economic evidence concerning whether a specific disclosure of Lehman's Repo 105s—a disclosure in Lehman's public filings of the volume of Repo 105 transactions and nature of the assets used in those transactions—during the time period from August 21, 2006, until early September 2008, prior to the alleged corrective disclosure days leading up to Lehman's bankruptcy, would have meaningfully impacted the market's perception of Lehman's financial condition (which includes the risks thereto).[4] I have not been asked to analyze the information released on any of the alleged corrective disclosure days.

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[1] This includes the effect, if any, of Repo 105s on Lehman's financial statements, notes to the financial statements, and Management's Discussion and Analysis ("MD&A") sections of Lehman's Forms 10-K and 10-Q.

[2] I refer throughout this report to Repo 105s and Repo 108s collectively as Repo 105s, except where otherwise noted. According to the Examiner, Repo 108s generally required a minimum 8% haircut and used equity securities whereas Repo 105s generally required a minimum 5% haircut and used fixed income securities. Examiner's Report, p. 732. However, I understand from counsel that according to Lehman's policy, the minimum haircut was 7% when equity securities were used.

[3] *See* Second Amended Complaint, *California Public Employees' Ret. Sys. v. Fuld et al.*, No. 11-cv-01281 (S.D.N.Y. Nov. 29, 2011) ("CalPERS Second Amended Complaint"), §VII.E; Amended Complaint, *Starr Int'l U.S.A. Invs. LC v. Ernst & Young LLP*, No. 11-cv-3745 (S.D.N.Y. Oct. 4, 2011) ("Starr Amended Complaint"), Count I; Second Amended Complaint, *New Jersey Dep't of Treasury, Div. of Inv. v. Fuld et al.*, No. 10-cv-05201 (S.D.N.Y.) ("New Jersey Second Amended Complaint"), §IV.N; Consolidated First Amended Complaint, *San Mateo County Inv. Pool v. Fuld et al.*, No. 09-cv-01239 (S.D.N.Y. Nov. 29, 2011) ("San Mateo First Amended Complaint") (consolidated complaint with seven other plaintiffs), §IV.K; and Amended Complaint for Violation of the Federal Securities Laws and Washington State Law, *Washington State Inv. Bd. v. Fuld et al.*, No. 09-cv-06041 (S.D.N.Y. Oct. 6, 2011) ("WSIB Amended Complaint"), §VI.

[4] August 21, 2006, reflects the earliest purchase at issue under Section 11 in the following five individual actions: CalPERS, Starr, New Jersey, San Mateo, and WSIB. Alleged corrective disclosure days in these five actions prior to Lehman's bankruptcy are: June 9, 2008; July 10, 2008; July 25, 2008; September 8, 2008; September 9, 2008;

7. I understand Professor Kenneth M. Lehn has been asked to address whether Lehman's financial reporting for Repo 105s caused plaintiffs' losses associated with their investments in Lehman securities, including on the alleged corrective disclosure days. I have reviewed Professor Lehn's report including his finding that there is no reliable basis to conclude that Lehman's financial reporting for Repo 105s caused plaintiffs' losses. I understand that Professor William J. Chambers has been asked to address whether and to what extent Lehman's credit ratings would have been affected had the rating agencies[5] known about Lehman's financial reporting for Repo 105s. I have reviewed Professor Chambers' report including his finding that knowledge of Lehman's financial reporting for Repo 105s would not have affected Lehman's credit ratings.

8. My opinion is that there is no economic basis establishing that a specific disclosure of Lehman's Repo 105s would have meaningfully impacted the market's perception of Lehman's financial condition. It is worth emphasizing at the outset that my opinion is not predicated on the conclusion or belief that leverage ratios (or the size of the balance sheet) never matter to the market's perception of the financial condition of a financial institution. Indeed, as I will discuss and extensively document, changes in a financial institution's leverage ratio (and the size of its balance sheet) can matter to the market's perception when those changes are driven by the inclusion or exclusion of risky, illiquid assets from the balance sheet. But that is simply not the case here given the highly liquid and low-risk nature of the assets used in Lehman's Repo 105s. More specifically, I conclude:

- The market was heavily focused on Lehman's illiquid, high-risk assets, particularly following Bear Stearns' collapse, and market knowledge of Lehman's exposure to these types of assets would not have been affected by a specific disclosure of Lehman's Repo 105s.

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and September 10, 2008. CalPERS Second Amended Complaint, dated November 29, 2011, §VII.F; Starr Amended Complaint, dated October 4, 2011, Count III, §B; New Jersey Second Amended Complaint, dated October 7, 2011, §IV.P; San Mateo Amended Complaint, dated November 29, 2011, §IVII, Appendix A; and WSIB Amended Complaint, dated October 6, 2011, ¶¶197–198.

[5] Standard & Poor's ("S&P"), Moody's Investors Service ("Moody's"), and Fitch Ratings ("Fitch").

- There is no economic basis establishing that a specific disclosure of Lehman's Repo 105s would have meaningfully impacted the market's perception of Lehman's capital adequacy. At most, net leverage at the time was used to monitor trends and to compare across firms. Neither the trend in Lehman's net leverage ratio nor its position relative to peers was affected by Lehman's financial reporting for Repo 105s. In addition, more sophisticated measures of capital adequacy such as CSE ratios, which account for the riskiness of assets, were more informative than net leverage.

- Empirical analysis shows no statistically significant relationship between changes in financial institutions' net leverage ratios that are due to the balance sheet reflecting liquid and low-risk assets, like those used in Lehman's Repo 105s, and the market's perception of the financial institution's overall financial condition with respect to market risk.

- There is no economic basis for concluding that the market's perception of Lehman's liquidity risk, specifically the possibility of a crisis of confidence in Lehman, would have been meaningfully impacted by a specific disclosure of Lehman's Repo 105s. Again, the assets used in Lehman's Repo 105s were in fact liquid and low risk. In addition, the market believed Lehman's liquidity pool and Federal Reserve facilities substantially mitigated any residual liquidity risk.

- There is no economic basis establishing that there would have been any meaningful impact from a specific disclosure of Lehman's Repo 105s on the market's perception of the bankruptcy risk Lehman faced in the event of a crisis in confidence.

- In sum, there is no economic basis establishing that a specific disclosure of Lehman's Repo 105s would have meaningfully impacted the totality of

information regarding Lehman's financial condition that was available to the market prior to the alleged corrective disclosures.

9. These are my opinions based on the materials I have reviewed to date. A list of documents that I reviewed in forming my opinions is attached hereto as Appendix B. I reserve the right to supplement my opinions, particularly after I have the benefit of reviewing any analysis presented by plaintiffs' experts or receiving additional information related to the subject matter of my engagement. If this matter proceeds to trial, selected pages of the documents and information that I considered may be used as exhibits. I may also prepare graphical or illustrative exhibits based on the contents of this report, the documents and information I have considered, and my analysis of such documents and information. I further may be called upon to provide additional summaries of evidence.

III. Background

a. Allegations

10. An assessment as to whether a specific disclosure of Lehman's Repo 105s would have meaningfully impacted the market's perception of Lehman's financial condition requires one to specify the information that such a disclosure would have contained and consideration of this information in light of the other information available to investors as well as the market conditions at the time. Absent any clear specification of the informational content of such a disclosure by the various plaintiffs, to be conservative, as I described above, I assume that such a disclosure of Lehman's Repo 105s would include information on the volume of Repo 105 transactions and the nature of the assets used in those transactions.

11. In addition, I understand that plaintiffs' investments in several types of securities are at issue in this matter—common stock, preferred stock, fixed rate bonds, and floating rate bonds.[6]

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[6] In certain individual actions, purchases of Lehman's preferred stock are at issue. Preferred stock is a form of equity that has a higher priority of claims than common equity but lower than debt securities. Preferred stock typically has fixed dividend payouts, resulting in preferred stock behaving similar to debt. However, if a dividend payout is not made, it is not considered an event of default. Also, similar to equity, preferred stock may have

The value of any financial asset is the present value of the expected future cash flows discounted at a rate that accounts for the riskiness of those cash flows. Investors who purchase equity in a firm have claims on the firm's future residual earnings after meeting expenses and obligations. Investors who purchase a firm's debt are entitled to their principal plus interest and have higher priority claims on the firm's earnings up to this amount, but do not otherwise have claims on future earnings of the firm. Given this, debt holders will be primarily concerned about bankruptcy risk while equity holders will be focused on the firm's residual earnings (in addition to bankruptcy risk). Accordingly, the question of whether a specific disclosure of Lehman's Repo 105s would have meaningfully impacted the market's perception of Lehman's financial condition could potentially turn on whether one answers the question from the standpoint of a Lehman equity or debt holder. Given these different types of claims at issue, I will address issues relevant from both perspectives in my analysis.

b. Overview Of Lehman

12. Lehman was a U.S. investment bank founded in 1850.[7] During 2007 and 2008, Lehman was the fourth largest investment bank in the U.S.[8] Its competitors included other major "pure play" investment banks such as Goldman Sachs, Merrill Lynch, Morgan Stanley, and Bear Stearns, as well as more diversified financial institutions such as Citigroup, J.P. Morgan, Deutsche Bank, and Bank of America.[9] Investment banks' main activities include (1) arranging capital raises and merger and acquisition ("M&A") transactions for corporate clients, (2) managing clients' assets, and (3) trading, either for the purpose of making markets or for

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perpetual life. As such, preferred stock has attributes that are a combination of attributes of both common stock and debt. Stephen A. Ross, Randolph W. Westerfield, and Jeffrey Jaffe, *Corporate Finance*, 8th ed. (New York: McGraw-Hill, 2008), pp. 413–415.

[7] Lehman Brothers Holdings Inc. Form 10-K for the Fiscal Year Ended November 30, 2007, filed January 29, 2008 ("Lehman 2007 10-K"), p. 3.

[8] Among the major investment banks (Goldman Sachs, Morgan Stanley, Merrill Lynch, Lehman, and Bear Stearns), Lehman was the fourth largest according to market capitalization as of November 30, 2007 ($90.1 billion, $55.9 billion, $51.2 billion, $33.2 billion, and $11.5 billion, respectively) and as of July 1, 2008 ($69.1 billion, $40.6 billion, $31.7 billion, and $11.6 billion, respectively). Bear Stearns was acquired by J.P. Morgan Chase on March 16, 2008. Center for Research on Security Prices ("CRSP").

[9] *See, e.g.*, Lehman Brothers Holdings Inc. Schedule 14A, Definitive Proxy Statement, dated March 5, 2008, p. 20; Deutsche Bank Reports dated April 11, 2007, p. 7, and January 10, 2008, p. 7; Bernstein Research Reports dated March 15, 2007, pp. 6–8; CIBC World Markets Reports dated June 13, 2007, p. 6, September 18, 2007, p. 6, November 28, 2007, p. 4, and December 13, 2007, p. 9.

investing on their own behalf.[10] These three activities generally correspond to Lehman's Investment Banking, Investment Management, and Capital Markets business segments.[11]

13. Lehman's Capital Markets segment was the largest contributor to net revenues, generating $12.3 billion in 2007, followed by Investment Banking with $3.9 billion and Investment Management with $3.1 billion.[12] Lehman's Capital Markets division was active in mortgage origination and securitization, as well as principal investing in real estate–related assets.

14. As is typical for investment banks, Lehman used liabilities to fund a significant fraction of its assets. Leverage ratios are simple financial ratios used to assess the amount of assets that are financed using liabilities as compared to equity. Lehman and its peers reported both a gross leverage ratio, which was simply total assets divided by total equity, and a net or adjusted leverage ratio, which made certain adjustments to total assets and total equity. Each firm had its own methodology for computing its net leverage ratio. Lehman computed its net leverage ratio as net assets divided by tangible equity capital, where net assets was equal to total assets minus "(i) cash and securities segregated and on deposit for regulatory and other purposes; (ii) collateralized lending agreements; and (iii) identifiable intangible assets and goodwill" and tangible equity capital as stockholders' equity plus junior subordinated notes minus identifiable intangible assets and goodwill.[13] Exhibit 1 shows the net leverage ratios for Lehman and its peers from 2004 to 2008, with those ratios declining in 2008 as the financial crisis worsened, as discussed in more detail below in Section III.e.

15. Liabilities can generally be classified as either short-term or long-term. Long-term liabilities are generally defined as liabilities with maturities greater than one year from the balance sheet date. Liabilities can be unsecured or secured by assets, meaning that assets have

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[10] David P. Stowell, *An Introduction to Investment Banks, Hedge Funds, and Private Equity: The New Paradigm* (Burlington, MA: Elsevier, 2010), p. 6.

[11] Lehman 2007 10-K, pp. 3–9.

[12] Ibid., p. 47.

[13] *See, e.g.*, Lehman Brothers Holdings Inc. Form 10-Q for the Quarterly Period Ended February 29, 2008, filed April 9, 2008 ("Lehman Q1 2008 10-Q"), p. 72. "Prior to fiscal year 2008, [Lehman's] definition for tangible equity capital limited the amount of junior subordinated notes and preferred stock included in the calculation to 25% of tangible equity capital." "Lehman Brothers Reports First Quarter Results," *PR Newswire*, March 18, 2008, p. 6.

been pledged as collateral to lessen the risk and magnitude of potential losses in the event of default.

16. Lehman and its peers relied heavily on short-term financing, and in particular secured short-term borrowing. Exhibit 2 shows Lehman's and its peers' basic financing structures as of the end of fiscal year 2007. Short-term borrowing for Lehman and its peers as a percentage of total funding was in the range of 60% to 70%.

17. Short-term financing can expose banks, including investment banks like Lehman, to refinancing risk, which is the risk that financing becomes more expensive or unavailable within a short period of time. This could impair a bank's ability to raise funds in a short time frame to pay maturing obligations, resulting in financial distress or possibly default. The risk that these financial problems materialize is referred to as liquidity risk. An increase in liquidity risk can be caused by a shock to the broader markets or a shock to investors' confidence in the financial health of the bank in particular.

18. To mitigate liquidity risk, Lehman and other investment banks generally used secured financing, such as repurchase agreements ("repos"). Secured financing mitigates liquidity risk because in the event of borrower default, the lender has rights to the collateral posted by the borrower. This generally makes lenders more willing to lend, all else equal. However, volatility or declines in the value of the assets underlying the transaction can increase liquidity risk for secured financing.

c. Repos

19. Repos are a form of short-term secured financing. A repurchase agreement is a financial transaction in which a firm transfers financial assets to another party in return for cash, under the condition that the firm will repurchase the financial assets at a future date, typically one to several days later. The assets transferred in the repo serve as collateral for the cash transferred. Investors often require that the initial market value of the assets transferred exceeds the amount of cash received, so that they are protected to some degree from declines in the market value of the transferred assets.

20. The investors who supply the funds are either other dealers or non-dealer counterparties such as securities lenders, money market funds, hedge funds, and other institutional investors.

Investors are generally willing to supply repo financing with low interest rates because the market value of assets transferred exceeds the amount of cash transferred and the transactions involve relatively short terms.

21. In a repo transaction, the amount of cash received relative to the market value of assets transferred is called the "haircut." If a haircut is, for example, 2%, a firm can receive $98 in cash for every $100 of assets transferred. Haircuts vary according to the riskiness of the assets used as collateral, the tenor of the transaction, and the credit risk of the counterparty. Securities with high price volatility, high credit risk, or low liquidity, generally require larger haircuts to compensate for the increased price uncertainty and risk of default on the underlying collateral that would be faced by the lender in the event of default by the borrower.[14] Higher quality assets with limited credit and liquidity risk are desirable because, in the event of default, they are easier to sell with a greater degree of certainty in the price. Bonds issued by creditworthy central governments are the most commonly used low-risk assets in repo transactions. The International Capital Market Association estimates that 80% of collateral for EU-originated repos is government bonds. Similarly, in the U.S., U.S. Treasury securities account for approximately two-thirds of the collateral used in the repo market, with much of the rest comprising U.S. Agency securities.[15]

22. Repos were the most common form of short-term borrowing for Lehman and its peers. Exhibit 3 compares Lehman's and its peers' usage of short-term debt instruments as of fiscal year-end 2007. Compared to their peers, more of Bear Stearns' and Lehman's short-term borrowing came from repos—73% and 64%, respectively. Repos comprised approximately 44%–57% of Lehman's other peers' short-term borrowing. Lehman's peers were more reliant on unsecured short-term borrowings.

23. Tri-party repos are a common type of repo. The tri-party repo market accounts for approximately two-thirds of all repos in the U.S.[16] In tri-party repos, there is an intermediate clearing bank that provides securities handling (i.e., selecting the seller's securities that meet the

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[14] *See, e.g.*, Adam Copeland, Antoine Martin, and Michael Walker, "The Tri-Party Repo Market before the 2010 Reforms," Federal Reserve Bank of New York Staff Reports, no. 477 (November 2010), p. 22.

[15] "What types of asset are used as collateral in the repo market?," International Capital Market Association.

[16] "What is tri-party repo?," International Capital Market Association.

cash investor's criteria and pricing exchanged securities) and settlement services. Clearing banks also finance the transactions intraday after a repo has unwound and before it is renewed in the afternoon.[17] There are also bilateral repos where the exchange of cash and securities occurs directly between cash investors and securities providers. Bilateral repos generally are used when two parties want to sidestep an agent or if counterparties desire to lend or borrow specific assets.[18]

d. Lehman's Use Of Repo 105s

24. I understand that Lehman accounted for its Repo 105s as sales, whereas certain other repo borrowings were accounted for as secured financings. I understand that in order for Repo 105s to be accounted for as sales, one criterion was that Repo 105s required a higher minimum haircut of approximately 5% to 8% (as compared to, for example, a more typical 2% haircut).[19]

25. Exhibit 4 charts Lehman's volume of Repo 105s for each quarter from fiscal Q2 2006 through its bankruptcy. As shown in Exhibit 5, the vast majority of assets used in Lehman's Repo 105s were assets most commonly used in repo markets—U.S. Treasuries, U.S. Agency securities, and sovereign debt. Much of the sovereign debt used in Lehman's Repo 105s was issued by G7 countries and the liquidity and risk profile of G7 sovereign debt was generally on par with U.S. Treasuries during this period.[20] The other assets used in Lehman's Repo 105s were

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[17] "What is tri-party repo?," International Capital Market Association.

[18] Tobias Adrian et al., "Repo and Securities Lending," Federal Reserve Bank of New York Staff Reports, no. 529 (December 2011), p. 5.

[19] According to the Examiner, Repo 108s generally required a minimum 8% haircut; however I understand from counsel that according to Lehman's policy, the minimum haircut was 7% when equity securities were used. Examiner's Report, pp. 732, 767. I use the terms haircut and overcollateralization interchangeably; however, a haircut is typically a percentage applied to the amount of assets being pledged while an amount of overcollateralization typically refers to the percentage of assets pledged relative to the amount of cash received. For example, a repo with 5% overcollateralization results in $100 cash for $105 in securities ($100 + (5% of $100) = $105) while a 5% haircut results in $99.75 cash for $105 in securities ($105 – (5% of $105) = $99.75).

[20] Non-U.S. G7 debt accounted for approximately 82% of the non-U.S. sovereign assets used in Repo 105s in Q4 2007, 87% in Q1 2008, and 92% in Q2 2008. Debt of non-U.S. G7 countries (Germany, France, Italy, United Kingdom, Japan, and Canada) was all rated AA- or better in mid-2008 and, according to Basel II standards, received zero risk weighting for the purpose of calculating minimum capital requirements. LBEX-DOCID 3219746; LBEX-DOCID 3219760; LBEX-DOCID 2078195. *See* "Complete Sovereign Rating History (xls)," Fitch Ratings, updated August 24, 2012, www.fitchratings.com/web_content/ratings/sovereign_ratings_history.xls. *See also* "Basel II: International Convergence of Capital Measurement and Capital Standards: A Revised Framework," Bank for International Settlements (November 2005), p. 15, http://www.bis.org/publ/bcbs118.htm.

primarily investment grade corporate debt and major index equity securities.[21] Plaintiffs have also described the assets used in Repo 105s as "highly liquid."[22]

26. I also understand that if Lehman used the cash from Repo 105 transactions to pay down its liabilities, it would reduce the total amount of assets reported on Lehman's balance sheet and, as a result, its net leverage ratio, relative to accounting for Repo 105s as secured financings. Exhibit 7 shows the effect of Lehman's accounting for Repo 105s on its reported net leverage ratio, relative to accounting for the transactions as secured financings.

e. Overview Of The Financial Crisis

27. Understanding the extreme market conditions associated with the financial crisis of 2007 and 2008 is important to understanding the risks financial institutions were facing during that time and the information that was important to the market.

28. The financial crisis followed a period of substantial credit expansion and house price growth. From 2000 to 2006, interest rates were low, lending standards relaxed, and the issuance of U.S. non-Agency mortgage-backed securities ("MBS") increased rapidly (Exhibit 8). At the same time, house prices rose until August 2006 (Exhibit 9). Commercial real estate prices also rose during this period before peaking in December 2007 (Exhibit 10).

29. An important driver of the growth in issuance of non-Agency MBS during this period came from subprime and other non-traditional lending channels. Subprime mortgages are mortgages made to borrowers with less-than-prime borrowing characteristics, such as weak credit histories, little or no assets, low down payments, and high debt-to-income ratios. As such, subprime mortgages commanded higher rates and fees to compensate for the heightened risk of default. Exhibit 11 shows that originations of subprime mortgages quadrupled from 2001 to

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[21] According to the Examiner's Report, almost all of the fixed income securities were investment grade with the vast majority rated as A. *See* Exhibit 6. For each of fiscal Q4 2007, Q1 2008, and Q2 2008, over 90% of equities used in Repo 105s were included in major equity indices. Major equity indices considered were equity indices listed on Bloomberg, which include the S&P 500 Index, Russell 1000 Index, NASDAQ Composite Index, FTSE 100 Index, FTSE 250 Index, Euronext Top 100 Index, Australian Stock Exchange All Ordinaries Index, VINX Benchmark Index, OMX Copenhagen Index, Euronext Paris CAC Consumer Services Index, Irish Stock Exchange Overall Index, FTSE MIB Index, FTSE All-Share Index, Amsterdam Stock Exchanges Light Index, OMX Stockholm Index, Swiss Exchange Swiss Performance Index, Deutsche Borse AG HDAX Index, FTSE AIM All Share Index, S&P BSE SENSEX Index, SENSEX Index, MICEX Index, Nikkei 225 Index, and Tokyo Stock Exchange Index.

[22] *See, e.g.*, CalPERS Second Amended Complaint, ¶165.

2005. Most subprime mortgages, 74% in 2005, were funded through the securitization of mortgages.[23] Securitization is the process by which banks package mortgages into MBS and sell them to investors. Banks typically used the proceeds from the sale of MBS to fund more mortgages, thus perpetuating the expansion of housing-related credit.

30. Exhibit 9 shows that house prices began to decline in late 2006. As shown in Exhibit 12, in February 2007, the value of BBB-rated non-Agency MBS began to decline. Gorton (2008) noted that "[e]arly signals [of the financial crisis] were seen in February 2007, a month where prices of the ABX BBB- tranches plunged more than 20%."[24] The Federal Home Loan Mortgage Corporation announced on February 27, 2007, that it would no longer buy the most risky subprime mortgages and mortgage-related securities.[25] Brunnermeier (2009) and Cecchetti (2009) also observed that an increase in subprime mortgage defaults was first noted in February 2007.[26] This wave of mortgage defaults led HSBC Holdings PLC and New Century Financial, the first and second largest subprime mortgage originators in 2006, respectively, to announce on February 7, 2007, increased losses due to increasing subprime mortgage delinquencies.[27] New Century Financial ultimately failed in April 2007.[28]

31. Year-over-year declines in house prices were within recent historical experience until September 2007, when house prices began to fall on a substantial and sustained basis.[29] Exhibit 10 shows that major declines in commercial real estate prices also began in late 2007. The fall in real estate prices led to large increases in mortgage delinquency rates. Exhibit 13 shows that residential and commercial real estate mortgage delinquency rates turned upward sharply beginning in Q2 2007. This led to severe contractions in the mortgage origination and

[23] Ashcraft and Schuermann, "Understanding the Securitization of Subprime Mortgage Credit," New York Fed working paper (2008), p. 2.

[24] Gary Gorton, "The Panic of 2007," NBER Working Paper (September 2008), p. 57.

[25] "The Financial Crisis: A Timeline of Events and Policy Actions," Federal Reserve Bank of St. Louis.

[26] Markus K. Brunnermeier, "Deciphering the Liquidity and Credit Crunch 2007–2008," *Journal of Economic Perspectives* 23, no. 1 (Winter 2009), p. 82; Stephen G. Cecchetti, "The Federal Reserve in the Early Stages of the Financial Crisis," *Journal of Economic Perspectives* 23, no. 1 (Winter 2009), p. 57.

[27] Stephen G. Ryan, "Accounting in and for the Subprime Crisis," *The Accounting Review* 83, no. 6 (2008), p. 20.

[28] "New Century, Biggest Subprime Casualty, Goes Bankrupt (Update4)," *Bloomberg News*, April 2, 2007 4:38 PM.

[29] Allen Ferrell and Atanu Saha, "Securities Litigation and the Housing Market Downturn," *Journal of Corporation Law* 35, no. 1 (2009), p. 22.

securitization industries, and a number of mortgage companies failed.[30] Exhibit 8 shows that the volume of non-Agency commercial and residential MBS issuance rose from $102 billion in 2000 to $917 billion in 2006, before declining by 95% over the course of 2007 to and 2008.

32. After beginning to fall in February 2007, the value of subprime MBS declined substantially later in 2007 as a result of the fall in house prices and rise in mortgage defaults. Exhibit 12 shows that ABX and CMBX indices, which are proxies for the values of subprime residential and commercial MBS, declined substantially after August 2007, and continued to decline through 2008.

33. The decline in the value of asset-backed securities ("ABS") created uncertainty over the value of collateral backing asset-backed commercial paper ("ABCP").[31] On August 9, 2007, BNP Paribas announced that it had suspended withdrawals from three investment funds due to its inability to value the mortgage-related assets held by the funds. Many investors subsequently stopped rolling commercial paper backed by assets related to subprime mortgages.[32] Exhibit 14 demonstrates that the ABCP market contracted substantially beginning in August 2007. ABCP was an important source of short-term financing for financial institutions, and many were forced to use other sources of liquidity to pay off maturing ABCP.

34. The contraction in the ABCP market caused uncertainty over the condition of a number of financial institutions. Exhibit 15 shows how the TED spread, a measure of counterparty default risk in the interbank lending market, increased dramatically subsequent to August 9,

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[30] The annual number of company failures in the mortgage industry increased from 8 in 2005 to 167 in 2007 and 127 in 2008. *See* "The Mortgage Graveyard: Failed, Struggling and Acquired Mortgage-Related Companies," *Mortgage Daily*, http://www.mortgagedaily.com/MortgageGraveyard.asp.

[31] ABCP has historically been backed by senior tranches of ABS. Tobias Adrian, Karin Kimbrough, and Dina Marchioni, "The Federal Reserve's Commercial Paper Funding Facility," Federal Reserve Bank of New York Staff Reports no. 423 (January 2010), p. 3. Also, Covitz, Liang, and Suarez found that exposure to subprime mortgages helps to explain the probability that an ABCP conduit experiences a run. David Covitz, Nellie Liang, and Gustavo Suarez, "The Evolution of a Financial Crisis: Panic in the Asset-Backed Commercial Paper Market," Federal Reserve Board working paper (August 24, 2009), p. 6.

[32] Jennifer Bethel, Allen Ferrell, and Gang Hu, "Legal and Economic Issues in Litigation arising from the 2007-2008 Credit Crisis." Prudent Lending Restored: Securitization after the Mortgage Meltdown (Brookings Institution Press 2009), p. 53; Marcin Kacperczyk and Philipp Schnabl, "When Safe Proved Risky: Commercial Paper During the Financial Crisis of 2007–2009," NBER Working Paper, no. 15538 (November 2009), p. 1. David Covitz, Nellie Liang, and Gustavo Suarez, "The Evolution of a Financial Crisis: Panic in the Asset-Backed Commercial Paper Market," Federal Reserve Board working paper (August 24, 2009), p. 6.

2007.[33] The cost of insuring against default risk in the financial sector also increased during the same period. Exhibit 16 shows that the credit default swap index for the financial services sector increased substantially after August 2007.

35. Market participants recognized that Lehman would suffer substantial losses due to deteriorating conditions in the real estate and credit markets. For example, in December 2007 analysts voiced concerns over Lehman's exposure to the commercial real estate market:

> We also are concerned about the firm's heavy exposure to commercial real estate, which we believe is largely unhedged and may drive material losses in future quarters if current trends persist. Meanwhile, LEH's [Lehman's] risk-taking exposure continues to increase, creating further potential for large swings in [profit and loss] going forward.[34]

Exhibit 17 shows Lehman's increasing real estate exposure over time with over $100 billion in real estate–related assets as of fiscal year-end 2007. Exhibit 18 shows that, after increasing over the course of 2006 and into 2007, the stock prices of Lehman and its peers fell significantly in August 2007 and continued to fall throughout 2008 as the value of real estate–related assets plummeted.

36. Like Lehman, Bear Stearns was heavily exposed to the real estate market.[35] As the value of real estate–related assets declined, ratings agencies lowered their outlook on Bear Stearns.[36] Bear Stearns' access to unsecured credit tightened significantly. The firm's use of unsecured commercial paper shrank from $20.7 billion at the end of 2006 to $3.9 billion at the end of 2007.[37] In response, Bear Stearns used its large holdings of real estate–related assets to obtain short-term financing in the repo markets.[38]

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[33] The TED spread reflects the yield difference between the three-month U.S. Treasury Bill and three-month London Interbank Offer Rate (LIBOR). The LIBOR is the rate that banks report it would cost them to borrow in the London interbank lending market. Because the three-month U.S. Treasury Bill is short-term U.S. government debt, this acts as a risk-free rate, and higher TED spreads reflect higher perceived counterparty default risks, as banks require higher interest rates to compensate for the increased riskiness of lending to each other.

[34] UBS Investment Research, "Lehman Brothers Holdings, Inc. A Hedge Above the Rest?" December 13, 2007.

[35] Bear Stearns had $17.2 billion of mortgage-related securities that were classified as Level III, which was more than Bear Stearns' equity. FCIC Report, p. 284.

[36] Financial Crisis Inquiry Commission, Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States, ("FCIC Report"), p. 282.

[37] Ibid., p. 283.

[38] Ibid., p. 283-284.

37. As Bear Stearns continued to experience losses on its mortgage-related assets, its access to repo financing tightened. As it became unable to use its real estate–related assets in repo transactions and repo lenders withdrew, Bear Stearns faced severe liquidity problems.[39] Moreover, prime brokerage clients withdrew their cash balances.[40] Bear Stearns began to experience a liquidity shortfall, even though it met and exceeded regulatory net capital and capital requirements.[41] Government intervention was ultimately required to keep Bear Stearns from being forced into bankruptcy. The Federal Reserve (the "Fed") orchestrated a deal for Bear Stearns to be purchased by J.P. Morgan on March 16, 2008, by guaranteeing $28.82 billion of Bear Stearns' assets as part of the deal.[42]

38. After the collapse of Bear Stearns, the Fed launched a number of lending facilities to provide liquidity to troubled dealers. These facilities provided liquidity against high-quality assets and helped to stabilize the credit markets.[43] House prices, however, continued to decline and the value of subprime mortgage-related assets continued to fall. Exhibit 12 shows that the downward trend in the value of subprime MBS continued after Bear Stearns collapsed. Between January 2007 and the beginning of September 2008, BBB-rated commercial mortgage-backed securities lost almost half their value, and BBB-rated subprime MBS lost more than 90% of their value.

39. Bear Stearns' collapse was followed by additional failures of major financial institutions that had large exposures to real estate markets. Facing insolvency, IndyMac Corp., a major player in Alt-A mortgage origination and securitization, was placed into receivership by the Federal Deposit Insurance Corporation in July 2008. Fannie Mae and Freddie Mac, both of which had built up substantial exposures to subprime markets, were placed into conservatorship of the Federal Housing Finance Agency on September 7, 2008.[44] Lehman was also affected by

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[39] Ibid., p. 288.
[40] "Turmoil in U.S. Credit Markets: Examining the Recent Actions of Federal Financial Regulators," Hearing before the Committee on Banking, Housing and Urban Affairs, 110th Cong. (April 3, 2008) (statement of Christopher Cox, Chairman, SEC), p. 13.
[41] Ibid., p. 13.
[42] FCIC Report, p. 290.
[43] Stephen G. Cecchetti, "Crisis and responses: the Federal Reserve in the early stages of the financial crisis," *Journal of Economic Perspectives* 23, no.1 (2009), pp. 51–76 at 64.
[44] "The Financial Crisis: A Timeline of Events and Policy Actions," Federal Reserve Bank of St. Louis.

the sharp declines in these markets as uncertainty about the value of Lehman's real estate–related assets increased. As shown in Exhibit 19, Lehman, similar to Bear Stearns, had a substantial amount of real estate–related assets relative to its total assets compared to its peers. In the last week before bankruptcy, Lehman's liquidity decreased dramatically as repo investors raised haircut requirements or refused to lend, and Lehman's clearing bank, J.P. Morgan, requested that Lehman post additional cash collateral.[45]

40. Attempting to prevent Lehman from being forced into bankruptcy, government officials approached other financial institutions, such as Bank of America and Barclays, about a possible acquisition. Bank of America required government assistance for any acquisition of Lehman.[46] Barclays was apparently ready to purchase Lehman, with a private consortium financing $40 billion to $50 billion of Lehman's assets, but was ultimately blocked from doing so by the U.K.'s Financial Services Authority without guarantees by the U.S. government.[47] The Fed, unwilling to guarantee Lehman's troubled assets, allowed Lehman to fail. Lehman filed for bankruptcy on September 15, 2008.

IV. No Economic Basis Establishing That A Specific Disclosure Of Lehman's Repo 105s Would Have Meaningfully Impacted The Market's Perception Of Lehman's Financial Condition

41. For the reasons outlined below, I find no economic basis establishing that a specific disclosure of Lehman's Repo 105s, and the effect on its net leverage ratio (and balance sheet), would have meaningfully impacted the market's perception of Lehman's financial condition.

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[45] Adam Copeland, Antoine Martin, and Michael Walker, "The Tri-Party Repo Market before the 2010 Reforms," Federal Reserve Bank of New York Staff Reports, no. 477 (November 2010), p. 58. *See also* FCIC Report, p. 333.
[46] FCIC Report, p. 332.
[47] Ibid., pp. 335–336. Barclays needed the FSA's approval to waive a shareholder vote, which could take 30 to 60 days, on the issue of whether Barclays should guarantee Lehman's obligations until the purchase was finalized.

a. Market Participants Were Heavily Focused On Lehman's Exposure To Real Estate–Related And Illiquid Assets, Which Was Unaffected By Lehman's Financial Reporting For Repo 105s

42. As the financial crisis intensified and financial institutions with large exposures to the real estate market, in particular Bear Stearns, began to experience significant problems, the market became increasingly focused on Lehman's holdings of real estate–related and other illiquid assets as the market evaluated Lehman's risk profile. Lehman began disclosing additional information about its holdings of these types of assets, which the market closely monitored. Because of the information available concerning Lehman's substantial exposure to these types of assets, and because the assets used in Repo 105s were not these types of assets, a specific disclosure of Lehman's Repo 105s would not have affected the market's perception of Lehman's financial condition with respect to its exposure to real estate–related and illiquid assets.

i. Lehman's Real Estate And Illiquid Assets

43. Lehman enhanced its disclosures about its asset exposures as market conditions deteriorated in 2007 and 2008. Prior to this time, Lehman disclosed general information regarding its composition of assets and select information about its real estate–related assets. For its real estate–related assets, Lehman disclosed origination, securitization, and sales activity and the total fair value of exposure for its mortgages and mortgage-backed positions as well as its real estate held for sale.[48]

44. Beginning in fiscal Q1 2007, Lehman adopted new accounting standards and added to its disclosures.[49] Lehman's enhanced disclosures provided a breakdown of Lehman's assets by fair value category, for example, the portion of real estate exposures classified as Levels I, II, and III. Level III assets include assets that are difficult to value because of unobservable valuation

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[48] *See, e.g.*, Lehman Brothers Holdings Inc. Form 10-K for the Fiscal Year Ended November 30, 2006, filed February 13, 2007 ("Lehman 2006 10-K"), p. 90.

[49] Lehman adopted Statement of Financial Accounting Standards No. 157 ("SFAS 157"), which established a framework for measuring fair value according to GAAP and expanded disclosure requirements. Lehman Brothers Holdings Inc. Form 10-Q for the Quarterly Period Ended February 28, 2007, filed April 9, 2007 ("Lehman Q1 2007 10-Q"), p. 14.

inputs, including lack of readily obtainable market prices.[50] Lehman also began providing information about the changes in Lehman's assets over the quarter, such as purchases, sales, transfers, and both realized and unrealized losses.[51]

45. By fiscal year-end 2007, Lehman further added to its disclosures about illiquid and real estate–related assets. It began to provide residential and commercial assets by type (whole loans, securities, servicing, and other) and its U.S. residential subprime mortgage assets by type (whole loans, retained interests in securitizations, and other).[52]

46. Lehman again added to its disclosures beginning fiscal Q1 2008, when it began to provide additional information about its residential and commercial mortgages by type, including gross and net write-downs. Lehman also provided residential mortgage inventory by category (prime, Alt-A, subprime, etc.) and commercial mortgage inventory by geographic region, as well as enhanced discussions regarding these exposures. Lehman also provided additional information about other types of illiquid assets including acquisition finance facilities.[53] In Lehman's earnings conference call on March 18, 2008, Lehman's CFO at the time, Erin Callan, elaborated on Lehman's write-downs and exposures related to real estate–related assets.[54]

ii. Market Focus Was On These Types Of Assets

47. Equity analysts were focused on the increasingly detailed information provided by Lehman about its real estate and illiquid assets. *See* Exhibit 20 for a compilation of some sample quotations from analyst reports.

48. With respect to Lehman's Level III asset disclosures beginning fiscal Q1 2007, analysts appreciated the additional information, but recognized that Level III assets are not necessarily poor quality, since high quality assets can also be difficult to value. Analysts wanted to

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[50] SFAS 157.

[51] *See, e.g.*, Lehman Q1 2007 10-Q, pp. 17–18; Lehman Brothers Holdings Inc. Form 10-Q for the Quarterly Period Ended May 31, 2007, filed July 10, 2007 ("Lehman Q2 2007 10-Q"), pp. 18–21.

[52] Lehman 2007 10-K, pp. 104–105.

[53] "Lehman Brothers Reports First Quarter Results," Company Press Release, March 18, 2008, pp. 13–14.

[54] Q1 2008 Lehman Brothers Holdings Inc. Earnings Conference Call, March 18, 2008. *See also* Deposition of Erin Callan, September 17, 2013, 140:15–150:10. Ian Lowitt, Lehman's CFO from June 12, 2008, until September 22, 2008, also testified that Lehman provided additional information regarding its legacy assets and the pricing of those assets during Lehman's June 9 earnings call. Deposition of Ian Lowitt, October 1, 2013, 100:17–101:15.

understand the types of Level III, or illiquid assets, held by Lehman. For example, in its November 13, 2007, report, UBS noted:

> A lot of focus has been placed on Level 3 assets at the brokers and banks as these buckets have grown significantly given the lack of liquidity in the structured credit market (Lehman's Level 3 assets represented 160% of the firm's equity base at the end of 3Q), and we think Lehman did a good job giving some color on what is included in their Level 3 bucket and why it's not all "bad" stuff.[55]

49. Analysts paid significant attention to Lehman's additional disclosures in 2008. For example, in its February 6, 2008, report, Credit Suisse highlighted that Lehman's "new disclosure details the composition of Lehman's residential, RMBS and commercial real estate exposures."[56] Many analysts considered the size of Lehman's real estate exposures, both nominally and relative to peers. For example, in its February 27, 2008, report, Buckingham Research compared Lehman's commercial real estate exposure to peer banks, noting "LEH has by far the largest exposure among the investment banks to commercial real estate – roughly double the next largest competitor."[57] As discussed above, Exhibit 19 shows Lehman's relatively high exposure to real estate–related assets relative to its total assets.

50. After Bear Stearns' collapse and takeover by J.P. Morgan Chase on March 16, 2008, the market's focus on Lehman's real estate–related assets, potential write-downs, and Lehman's plan to address this exposure heightened. For instance, in its March 19, 2008, report, Punk Ziegel & Company commented:

> There was a very detailed discussion of the company's assets and a table provided to demonstrate that the write downs being taken were manageable. Very important in this discussion was the explanation of the various actions that the firm took through effective risk management to lower the actual loss.[58]

In its March 19, 2008, report, J.P. Morgan noted:

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[55] UBS Investment Research, "Lehman Brothers Effectively Controlling What They Can," November 13, 2007, p. 3.
[56] Credit Suisse, "Lehman Brothers," February 6, 2008, p. 1.
[57] The Buckingham Research Group, "Lehman Brothers (LEH) Strong Buy," February 27, 2008, p. 2.
[58] Punk Ziegel & Company Report, "Lehman Brothers (NYSE: LEH)," March 19, 2008, p. 1.

> Lehman Brothers (LEH) and Goldman Sachs (GS) both reported earnings that beat street estimates, but we note that estimates have been reduced significantly over the last month. That said, given the events of the last week the announcements should be positive for spreads. We will focus more on liquidity and the marked to market write downs for high risk assets since that is our paramount concern.[59]

In Lehman's fiscal Q1 2008 earnings conference call on March 18, 2008, analysts asked additional questions about Lehman's exposures and hedging strategy relating to Alt-A mortgage–related assets, and changes in the composition of Level III assets.[60] Lehman's CFO at the time, Erin Callan, responded to the analysts' questions [redacted]

> [redacted]

51. Equity analysts considered the removal of real estate–related and illiquid assets from Lehman's balance sheet as positive for Lehman's outlook. For example, in its April 14, 2008, report, in response to Lehman's plan to sell $55 billion in these types of assets in fiscal Q2 2008, Buckingham Research stated:

> So despite some near-term pain, we believe this is a bullish step by helping LEH silence the critics about its balance sheet (and thus helping the stock's multiple.) Also, given the risk reduction, we have more confidence in 2H08 and '09 EPS estimates.[62]

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[59] JP Morgan, "Goldman Sachs and Lehman Brothers," March 19, 2008, p. 1.

[60] Q1 2008 Lehman Brothers Holdings Inc. Earnings Conference Call, March 18, 2008. *See also* Deposition of Erin Callan, September 17, 2013, 140:15–150:10.

[61] Deposition of Erin Callan, September 18, 2013, 460:13–19. Note that, as shown in Exhibit 21, Lehman did not lower its net leverage ratio from fiscal Q1 2008 to fiscal Q2 2008 by using Repo 105s, since its level of Repo 105s only increased slightly during fiscal Q2 2008 (from $49.1 billion to $50.4 billion). [redacted] Deposition of Christopher O'Meara, September 20, 2013, 430:14–20.

[62] The Buckingham Research Group, "Lehman Brothers (LEH) Strong Buy," April 14, 2008, p. 1.

52. Analyst concern about real estate–related and illiquid assets remained after Lehman's earnings announcement for fiscal Q2 2008. In its June 16, 2008, report, J.P. Morgan highlighted the substantial amount of these types of assets relative to Lehman's total assets:

> **Exposure to real estate material.** Lehman continues to have significant exposure to residential and commercial mortgages, totaling $61bn. The exposure is down $14bn from last quarter, but still accounts for 9.5% of total assets and 18.6% of net assets, consistent with levels reported last quarter.[63]

Similarly, in its July 11, 2008, report, Oppenheimer noted:

> Level 3 assets were $41.3 billion, down from $42.5 billion in 1Q08. Level 3 assets represent 6.5% of total assets and 16.6% of total assets at fair value. The decrease in level 3 assets was due to a decline in MBS and ABS partially offset by an increase in corporate debt and equities.[64]

53. While the market was clearly focused on Lehman's exposures to real estate–related and illiquid assets, almost all of the assets used in Repo 105s were not the types of assets about which the market was concerned. As discussed above in Section III.d and as shown in Exhibit 5, the assets used in Repo 105s comprised low-risk and liquid securities—for example, U.S. Treasuries, U.S. Agency securities, and sovereign debt. Therefore, a specific disclosure of Lehman's Repo 105s would not have affected Lehman's reported holdings of real estate and illiquid assets, which were the primary concern of market participants during the financial crisis, particularly after the Bear Stearns failure.

b. No Economic Basis Establishing That The Perception Of Lehman's Capital Adequacy Would Have Been Meaningfully Impacted

54. There is no economic basis establishing that a specific disclosure of Lehman's Repo 105s and its effect on net leverage would have meaningfully impacted the market's perception of Lehman's financial condition with respect to capital adequacy. Consistent with my findings, detailed below, Ben Bernanke, Chairman of the Fed, has stated that Lehman's financial reporting

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[63] J.P. Morgan, "LEH Earnings In Line with Preannouncement, Risks Persist," June 16, 2008, emphasis in original.
[64] Oppenheimer, "LEH 2Q08 10-Q Review," July 11, 2008, p. 1.

for Repo 105s did not conceal information about the risk of capital deficiency at Lehman, noting that "knowledge of Lehman's accounting for these transactions would not have materially altered the Fed's view of the condition of the firm."[65]

i. Net Leverage Is A Limited Tool Because It Does Not Capture Asset Risk

55. The question of how a firm's value is related to its capital structure (i.e., the mix of debt and equity) has been a core topic of academic research in the field of financial economics for many decades.[66] Leverage ratios, such as net leverage, are measures of the extent to which a firm finances its assets with debt versus equity. More leverage does not necessarily mean more risk—it matters to what extent the assets being financed with debt or equity are exposed to risk.[67] [redacted]

[redacted]

56. While Lehman and its peers each reported slightly different measures of net leverage, net leverage was generally defined as net assets divided by tangible equity capital.[69] As net assets

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[65] "Lessons from the Failure of Lehman Brothers," Statement by Ben S. Bernanke, Chairman of the Board of Governors of the Federal Reserve System before the Committee of Financial Services U.S. House of Representatives, Washington, DC (April 20, 2010), p. 2.

[66] *See, e.g.*, Franco Modigliani and Merton H. Miller, "The cost of capital, corporation finance and the theory of investment," *American Economic Review* 48, no. 3 (1958), pp. 261–297; Michael C. Jensen and William H. Meckling, "Theory of the firm: Managerial behavior, agency costs and ownership structure," *Journal of Financial Economics* 3, no. 4 (1976), pp. 305–360; and Milton Harris and Artur Raviv, "Capital structure and the informational role of debt," *Journal of Finance* 45, no. 2 (1990), pp. 321–349.

[67] Robert S. Hamada, "The effect of the firm's capital structure on the systematic risk of common stocks," *Journal of Finance* 27, no. 2 (1972), pp. 435–452. *See also* Robert C. Merton, "On the pricing of corporate debt: The risk structure of interest rates," *Journal of Finance* 29, no. 2 (1974), pp. 449–470.

[68] Lehman MDL Ex. 982 [redacted]

[69] *See* Lehman 2007 10-K, p. 63–64; The Goldman Sachs Group, Inc. Form 10-K for the Fiscal Year Ended November 30, 2007, filed January 29, 2008, pp. 81–82; Morgan Stanley Form 10-K/A for the Fiscal Year Ended

increase, so does the net leverage ratio, regardless of the type or risk profile of the assets being added to net assets. Beyond this basic limitation of the net leverage ratio, the net leverage ratio also does not reflect any derivative or hedging positions that affect the overall risk profile of the assets.

57. The SEC, Moody's, and the Lehman Bankruptcy Examiner have each explained how net leverage ratios did not capture asset risk. Professor Erik Sirri, Director of the SEC's Division of Trading and Markets from 2006 through 2009, testified that "leverage tests are not accurate measures of financial strength [because l]everage ratios do not account for the risk or liquidity of the underlying assets or associated hedging positions." Dr. Sirri noted that "leverage ratios can overstate or understate actual risk due to leverage."[70] In 2006, Moody's explained why it did not rely upon net leverage ratios in its credit ratings decisions:

> [T]raditional leverage measures such as gross assets and net assets are not insightful measures of credit risk for securities firms…. Such measures do not fully adjust for the volatility of the assets financed, the impact of hedges, the availability of relatively stable collateralized financing for many assets, or the discipline imposed by mark-to-market accounting.[71]

The Bankruptcy Examiner described the net leverage ratio as a "brutal, rudimentary measurement" which "did not capture the quality of the assets."[72] The Director of Financial Markets and Community Investment for the Government Accountability Office has also explained the limitations of leverage ratios:

> [T]he ratio of assets to equity captures only on-balance sheet assets and treats all assets as equally risky. Moreover, the ratio of assets to equity helps to measure the extent to which a change in total assets would affect equity but provides no information on the probability of such a change occurring. Finally, a leveraged position may not be more risky than a non-leveraged position, when other aspects

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November 30, 2007, filed January 29, 2008, pp. 68–69; Merrill Lynch & Co., Inc. Form 10-K for the Fiscal Year Ended December 28, 2007, filed February 25, 2008, p. 56; Bear Stearns Companies Inc., Form 10-K for the Period Ended November 30, 2007, filed January 29, 2008, pp. 52–53.

[70] Testimony of Erik Sirri, SEC, to Subcommittee on Securities, Insurance, and Investment (March 18, 2009), p. 5. *See also* "Speech by SEC Staff: Remarks at the National Economists Club: Securities Markets and Regulatory Reform," Erik R. Sirri, April 9, 2009.

[71] "Global Securities Industry Methodology," Moody's Investors Services, December 2006, p. 6.

[72] Examiner's Report, p. 805.

> of the position are not equal. For example, a non-leveraged position in a highly risky asset could be more risky than a leveraged position in a low risk asset.[73]

58. Not surprisingly, to the extent market participants monitored the declines in Lehman's net leverage ratio beginning in fiscal Q1 2008, they did so with respect to the types of assets that were being sold. As Lehman reduced its net leverage ratio, the market focused on the fact that it was doing so by "de-risking" its balance sheet by reducing its exposure to risky real estate assets. *See* Exhibit 22 for a compilation of relevant quotations from analyst reports discussing this issue.

59. For example, in its April 14, 2008, report, Buckingham Research indicated that Lehman's deleveraging would be the result of raising equity and de-risking through sales of mortgage assets:

> After the recent equity issuance moved LEH most of the way toward its deleveraging goal, the next step is to aggressively "de-risk" the balance sheet by cutting a targeted $55bn in riskier, less liquid assets (mortgages, leveraged and investment grade corporate loans, high yield inventory, and private equity) all by the end of 2Q08. While this may involve some further near-term "hits" (and why we are cutting our 2Q08 EPS estimate – see below), we believe it is bullish for the stock given that: 1) it gives us more confidence in our estimates for 2H08 and 2009 since it reduces writedown risk going forward; and 2) the sizable reduction in riskier less liquid assets should help allay balance sheet fears.[74]

In a June 3, 2008, report, Citigroup, in examining the benefits of a capital raise that would reduce Lehman's gross and net leverage ratios, stated, "A capital raise with a significant reduction in hard to sell assets would meaningfully benefit the stock in our view."[75] On June 10, 2008, Credit Suisse downgraded Lehman's stock citing concerns with Lehman's large real estate exposures despite its progress in de-leveraging. In the same report, Credit Suisse provided its own leverage measure specifically taking into account the assets about which it was concerned. It calculated a ratio of Lehman's real estate–related assets to pro-forma equity, noting that Lehman's real estate

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[73] "Financial Crisis Highlights Need to Improve Oversight of Leverage at Financial Institutions and across System," Statement of Orice Williams Brown, Director Financial Markets and Community Investment, United States Government Accountability Office, Testimony Before the Subcommittee on Oversight and Investigations, Committee on Financial Services, House of Representatives (May 6, 2010), p. 4.

[74] The Buckingham Research Group, "Lehman Brothers (LEH) Strong Buy," April 14, 2008, p. 2.

[75] Citigroup, "Lehman Brothers Holdings Inc (LEH)," June 3, 2008, p. 1.

exposure was "still too much at 2x Lehman's pro forma shareholders' equity." Credit Suisse noted that reducing real estate exposures would be the single most important strategy for "reducing the firm's risk profile."[76] In its June 30, 2008, report, Morgan Stanley acknowledged Lehman's "rapid decline in leverage" but stated that Lehman was "slow to derisk." Despite Lehman's decline in net leverage, Morgan Stanley noted that a key value driver for Lehman would be the "timing and magnitude of asset sales (and potential valuation hits) stemming from illiquid asset overhang."[77]

60. As discussed in more detail above in Section IV.a, the market was primarily concerned with the asset risk associated with Lehman's exposure to illiquid and real estate–related assets. Any increase in Lehman's net leverage from the types of assets used in Repo 105s would not have been perceived by the market as a meaningful change in Lehman's overall risk profile with respect to its capital adequacy. The assets used in Repo 105s were not illiquid or real estate–related. As discussed above in Section III.d, the assets used in Repo 105s comprised low-risk and liquid securities.

ii. Net Leverage Was Used To Monitor Trends And Compare Across Peers

61. Although net leverage ratios do not provide information about the riskiness of assets, they are used by the market to identify basic trends and to make high-level comparisons across peers about overall asset exposure.[78] Many equity analysts observed that Lehman's leverage was generally trending downward and was in line with those of its peers. Exhibit 22 includes relevant quotations from analyst reports. For example, in its July 14, 2008 report, Citigroup Global Markets, while commenting that capital ratios "are a more effective way of evaluating firm risk and capital adequacy (vs. leverage ratios)," noted that "Lehman delevered the most vs. peers."[79] In its July 11 and July 14, 2008 reports, Fox-Pitt Kelton observed that leverage ratios

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[76] Credit Suisse, "Lehman Brothers (LEH) Recalibrating Expectations," June 10, 2008.
[77] Morgan Stanley, "Lehman Brothers Bruised, Not Broken – and Poised for Profitability," June 30, 2008, p. 4.
[78] [redacted] 121:17–122:14.
[79] Citigroup Global Markets, "Analysis of Broker 10-Qs Highlighting Several New & Incremental Disclosures (GS, LEH, MS)," July 14, 2008, pp. 1–2.

declined sequentially for Lehman, Goldman Sachs, and Morgan Stanley[80] and that Lehman's leverage ratios were in-line with peers.[81] In its August 11, 2008 report, Bank of America provided a detailed analysis of investment banks' relative leverage ratios and trends and also showed that Lehman's leverage ratios were consistent with its peers.[82] The former director of the New Jersey Division of Investment testified that [redacted][83] Lehman's CFO at the time, Ian Lowitt, also explained in a June 16, 2008 investor conference call the role of net leverage as a tool to compare across firms.[84]

iii. Lehman's Net Leverage Trend And Position Relative To Peers Were Unaffected By Its Financial Reporting For Repo 105s

62. When the assets used in Repo 105s are included in Lehman's net leverage ratio, Lehman's net leverage ratio would have exhibited the same general trends and position relative to peers over the course of late 2006 through 2008.

63. Exhibit 7 shows that the trend in Lehman's net leverage ratio from fiscal Q2 2006 through fiscal Q3 2008 would have remained the same if the Repo 105 assets were included in the net leverage ratio. Lehman's net leverage ratio would still have increased up to fiscal Q4 2007 and declined sharply in each fiscal quarter of 2008. Exhibit 23 shows that quarterly changes in Lehman's net leverage ratio would not have been substantially affected by including the Repo 105 assets in the ratios. For example, for fiscal Q2 2008, Lehman would have reported the same decline in its net leverage ratio (3.4%). The fact that Lehman's net leverage ratio was declining in 2008 regardless of its accounting for Repo 105s makes it unlikely that it would have meaningfully impacted the market's perception of Lehman's financial condition. Indeed, consistent with this analysis, a *New York Times* article reported that in the SEC's investigation of

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[80] Fox-Pitt Kelton, "Some Highlights from 2Q08 10Q," July 11, 2008, p. 1
[81] Fox-Pitt Kelton, "Lehman Brothers Going Private May Be the Best Course of Action," July 14, 2008, p. 3.
[82] Bank of America, "Capital Markets Picture Book," August 11, 2008.
[83] Deposition of William G. Clark, July 23, 2013, 240:14–241:6.
[84] Q2 2008 Lehman Brothers Holdings Inc. Earnings Conference Call, June 16, 2008.

the causes of the Lehman's failure, it "concluded that Repo 105 would not have been 'material' to investors because the firm's leverage ratio was trending downward regardless of Repo 105."[85]

64. Including the Repo 105 assets in Lehman's net leverage ratio also would not have meaningfully impacted the market's assessment of Lehman's net leverage ratio relative to its peers. Exhibit 21 compares Lehman's net leverage ratio, both as reported and including Repo 105 assets, to each of its peers using each company's own net leverage methodology.[86] The chart shows that Lehman's net leverage ratio would have remained in-line with its peers. For fiscal Q2 2008 in particular, Lehman still would have reported the lowest net leverage ratio among its peer group. Furthermore, after adjusting Lehman's net leverage ratio for the assets used in Repo 105s and its $6 billion equity offering completed on June 9, 2008, nine days after reporting its fiscal Q2 2008 net leverage,[87] Lehman's net leverage ratio would have been the lowest for fiscal Q2 2008 by an even greater degree.[88,89]

iv. Despite Lower Net Leverage, Market Participants Remained Concerned About Capital Adequacy

65. Despite the reductions in Lehman's net leverage ratio, market participants remained concerned about Lehman's exposure to illiquid and real estate–related assets and its capital adequacy. These risks were neither concealed nor considered adequately addressed by Lehman's declining net leverage ratio. Market participants continued to closely monitor Lehman's exposure to illiquid and real estate–related assets and expressed concern about Lehman's ability to unwind those positions quickly without facing substantial write-downs. The sufficiency of

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[85] "Inside the End of the U.S. Bid to Punish Lehman Executives," *The New York Times*, September 8, 2013, 8:57 PM.

[86] Consistent with the Examiner's Report, I have adjusted Lehman's net leverage ratio by adding the total amount of Repo 105 assets to Lehman's net assets.

[87] None of Lehman's peers issued equity during Q2 2008.

[88] Many equity analysts also adjusted for this equity offering. *See, e.g.*, Citigroup Global , "Analysis of Broker 10-Qs Highlighting Several New & Incremental Disclosures (GS, LEH, MS)," p. 3 ("LEH ratio of Level 3 to equity shown proforma for $6b capital raise in 3Q08.").

[89] Exhibit 24 shows that when net leverage is calculated using Lehman's definition of net leverage as opposed to each company's reported net leverage ratio, Lehman's net leverage ratio would not have deviated from the peer group if the assets used in Repo 105 transactions were included. In addition, the trends in its peers' ratios would have remained unchanged using Lehman's methodology. When also considering Lehman's June 9, 2008, equity raise, even with the inclusion of the assets used in Repo 105 transactions, Lehman would have reported the lowest net leverage ratio in fiscal Q2 2008.

Lehman's capital base to withstand those write-downs was also a concern, and was increasingly so after the Bear Stearns acquisition and as the real estate and credit markets continued to deteriorate. Exhibit 22 includes relevant quotations from analyst reports on this issue.

66. For example, in its June 9, 2008, report, after Lehman's preliminary announcement of fiscal Q2 2008 earnings, Bank of America noted Lehman's lower leverage and reduction in troubled assets, but remained concerned about Lehman's exposure to illiquid assets and the sufficiency of its capital base:

> While LEH reduced gross leverage from 32x to 25x, increased their liquidity pool from $34B to $45B, and drove reductions across most troubled asset classes (and reduced total assets by $130B or 17%), we await more details on total remaining troubled assets in aggregate as well as a L-III or illiquid asset update to help answer the question of whether $6B in incremental capital raise is sufficient.[90]

67. Concern over Lehman's assets continued even after the company made its preliminary announcement of fiscal Q3 2008 earnings on September 10, 2008, when it announced an additional $5.3 billion in gross write-downs on residential assets and $1.7 billion on commercial assets.[91] For example, in its September 10, 2008, report, Bank of America continued to express concern:

> While LEH has made solid progress in reducing risk exposures, sizable exposures remain…. All in, Lehman post all the transactions announced today on a pro forma basis will have ~$20-$25 billion in risk exposures vs. common tangible equity closer to $11-12 billion, which is still too high a ratio to instill confidence that "the worst is behind us."[92]

v. Risk-Weighted Measures Of Capital Adequacy Were More Informative

68. Market participants considered risk-weighted measures of capital adequacy, which account for the riskiness of assets, to be more informative than simple leverage ratios. The two

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[90] Bank of America Equity Research, "HEADS UP!"., June 9, 2008, at p. 1 (LBEXDOCID 015863).
[91] Lehman Earnings Press Release, September 10, 2008.
[92] Bank of America Equity Research, "HEADS UP!", September 10, 2008, at LBHI_DE_00001252.

capital adequacy measures in particular during the financial crisis that accounted for the different risk characteristics across assets were Consolidated Supervised Entity ("CSE") capital ratios and Value-at-Risk ("VaR")-based ratios. I understand that plaintiffs have made no allegation that these ratios were affected by Lehman's financial reporting for Repo 105s.[93]

69. Beginning November 30, 2005, Lehman and its investment bank holding company peers were regulated by the SEC under its CSE program.[94] As part of the CSE program, Lehman was required to meet CSE capital ratio requirements, which were measures of capital adequacy intended to ensure that Lehman had sufficient capital to support current and projected business activities.[95] Regulators such as the SEC typically impose capital adequacy requirements to reduce insolvency risk. The capital adequacy ratios implemented by the SEC as part of its CSE program measured total allowable capital relative to risk-weighted assets.[96] The two measures were the Total [Risk-Based] Capital Ratio, which was required to be greater than 10%, and a Tier 1 [Risk-Based] Capital Ratio, which was required to be greater than 110%.[97] These metrics were designed to be broadly consistent with capital adequacy metrics used in the supervision of bank holding companies as recommended by the Basel Committee on Banking Supervision under Basel II.[98] The CSE capital ratios placed greater weight on more volatile assets in order to more accurately capture the firm's risk profile. In effect, these metrics prevented minimum capital requirements from penalizing firms for holding high-quality assets and attempted to

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[93] The Examiner stated that "[w]hile a repo transaction that was recorded as a true sale affects a firm's net leverage ratio, it would not affect other ratios (e.g., VaR, stress test results, Level III assets to total inventory)." Examiner's Report, p. 908.

[94] CSE Overview, August 8, 2007, LBEX-DOCID 382979.

[95] Lehman Brothers Holdings Inc. Form 10-Q for the Quarterly Period Ended May 31, 2008, filed July 10, 2008 ("Lehman Q2 2008 10-Q"), p. 101.

[96] Total allowable capital is the sum of Tier 1 and Tier 2 capital components. Tier 1 capital comprises stockholder's equity less the sum of the Company's (i) identifiable intangible assets and goodwill, (ii) deferred tax assets that are dependent on future taxable income, (iii) cumulative gains or losses, net of taxes, that arise from the application of fair value accounting on the Company's financial debt liabilities and which are attributable to changes in the Company's credit spread, and (iv) other deductions, including the Company's investments in insurance subsidiaries. Tier 1 capital adds back unrestricted securities issued by the Company—including perpetual, non-cumulative preferred securities, as well as restricted securities issued by the Company—generally including qualifying cumulative preferred securities, trust preferred securities and certain hybrid securities. Tier 2 capital includes senior and subordinated notes—generally including qualifying senior and subordinated notes that are unsecured and have maturities greater than five years from the date of the financial statements. Risk-weighted assets, as described below, are computed using Lehman's internal models. Lehman Q2 2008 10-Q, pp. 101–103.

[97] CSE Overview, August 8, 2007, LBEX-DOCID 382979.

[98] Lehman Q2 2008 10-Q, p. 21.

adjust for the increased risk faced by firms that hold large portions of low-quality (or high-risk) assets. Compared with simple net leverage ratios, CSE capital ratios were more sophisticated measures of capital adequacy, in that they accounted for additional information regarding the riskiness of the assets held by the firm.

70. Risk weightings used in the CSE capital ratios were derived from Lehman's VaR-based internal models, which were back-tested and approved by the SEC. The internal models accounted for three separate sources of firm and asset-specific risk: credit risk, market risk, and operational risk.[99]

71. From fiscal Q3 2006 through fiscal Q1 2008, Lehman disclosed to the market in its SEC filings that it "was in compliance with the CSE capital requirements and had allowable capital in excess of the minimum capital requirements on a consolidated basis." Lehman explained that the CSE capital requirements are "principally driven by market, credit and operational risk amounts computed using methodologies developed by the Company and approved by the SEC."[100] Lehman did not include specific figures for capital ratios in these filings.

72. Beginning with its 10-Q SEC filing for fiscal Q2 2008, in its MD&A section, Lehman augmented its CSE-related disclosures. Lehman reported its Tier 1 Capital Ratio and Total Capital Ratio as well as details on the calculation of each metric.[101] As of fiscal Q2 2008, Lehman reported that its Total Risk-Based Capital Ratio was above the 10% notification threshold set by the SEC.[102]

73. Equity analysts following Lehman relied on Lehman's CSE ratios once Lehman began disclosing them in fiscal Q2 2008, noting that capital measures that incorporated measures of the riskiness of assets are more effective and meaningful risk measures than the net leverage ratio. *See* Exhibit 25 for a compilation of relevant quotations from analyst reports. For example, a Citigroup analyst report commented:

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[99] Lehman Q2 2008 10-Q, pp. 21, 101–102.

[100] Lehman Q1 2008 10-Q, pp. 17, 86. *See also* Lehman 2007 10-K; Lehman Brothers Holdings Inc. Forms 10-Q for the quarterly periods Q1 2007 through Q1 2008. The Form 10-Q period end dates and filing dates are listed in Appendix B.

[101] *See, e.g.*, Q2 2008 Lehman Brothers Holdings Inc. Earnings Conference Call, June 16, 2008; Lehman Q2 2008 10-Q, p. 103; and Q3 2008 Preliminary Lehman Brothers Holdings Inc. Earnings Conference Call, September 10, 2008.

[102] Lehman Q2 2008 10-Q, p. 103.

> In our view, capital ratios and risk-weighted assets are a more effective way of evaluating firm risk and capital adequacy (vs. leverage ratios), but they still lack a focus on liquidity.[103]

Plaintiff New Jersey testified that [redacted] New Jersey also commented that [redacted][104]

74. Lehman's CSE capital ratios were in-line with industry peers. *See* Exhibit 26 for a comparison of Lehman's and peer banks' Tier 1 Capital Ratio and Total Capital Ratio for fiscal Q2 2008. Exhibit 26 shows that Lehman's CSE capital ratios were within the bounds of peer banks'. Further, if Lehman's June 9, 2008, equity offering is taken into account, both Lehman's Tier 1 Capital Ratio and Total Capital Ratio would be higher than its peers' in fiscal Q2 2008.

75. In addition to CSE capital ratios, market participants also considered Lehman's reported VaR measures, both nominally and as a percent of assets. Exhibit 25 includes relevant quotations from analyst reports. VaR is a statistical measure of the potential loss in the fair value of a portfolio due to adverse movements in underlying risk factors.[105] VaR is, therefore, a measure of market risk. Like the CSE capital ratios, VaR calculations are responsive to varying market riskiness of each of Lehman's assets.

vi. Empirical Analysis Shows No Statistically Significant Relationship Between Leverage From Liquid Assets And Future Stock Returns[106]

76. Empirical analysis shows no statistically significant relationship between changes in financial institutions' net leverage ratios that are due to the balance sheet reflecting liquid and low-risk assets, like those used in Lehman's Repo 105s, and the market's perception of the

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[103] Citigroup Global Markets, "Analysis of Broker 10-Qs Highlighting Several New & Incremental Disclosures (GS, LEH, MS)," July 14, 2008.
[104] Deposition of William Clark, July 23, 2013, 18:11–15, 199:3–200:8, 200:16–201:7.
[105] Lehman 2007 10-K, p. 70.
[106] *See* Appendix C for additional details on this analysis.

financial institution's overall financial condition with respect to market risk (as proxied by financial institution future stock returns). Furthermore, I do find that there is a statistically significant relationship between net leverage attributable to the types of assets not used in Lehman's Repo 105s and the institution's financial condition with respect to market risks. My findings are consistent with the fact that net leverage ratios provide limited information to market participants about the financial condition of a financial institution because they do not provide information about the riskiness of the assets being levered, and that the market looks beyond net leverage ratios to the types of assets being levered.

77. My analysis is based upon a regression model similar to the one developed by Cooper et al. (2003) in "Evidence of Predictability in the Cross-Section of Bank Stock Returns." The model developed by Cooper et al. explores the statistical relationship between bank financial characteristics and stock price returns by regressing stock price returns on lagged values of these bank financial characteristics.[107] My analysis demonstrates the following with respect to the lagged net leverage ratio variables and stock price returns: (1) there is no statistically significant relationship between the net leverage ratio and stock price returns; (2) assuming the market paid attention to the assets comprising net leverage, net leverage attributable to low risk, liquid assets such as U.S. Treasuries and U.S. Agency securities also did not have a statistically significant relationship with stock price returns while net leverage associated with other assets did; and (3) net leverage attributable more broadly to the types of assets used in Repo 105s also did not have a statistically significant relationship with stock price returns while net leverage associated with other assets—such as illiquid, risky real estate assets—did.

78. I will now describe in detail the empirical analysis I undertook. I constructed a database of financial information on U.S. publicly traded financial institutions. I considered publicly traded financial institutions with consolidated assets greater than $500 million and identified by the Fed as a U.S. bank holding company ("BHC") or U.S. financial holding company ("FHD").[108] Similar to Cooper et al., I used financial data from each financial institution's

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[107] Michael J. Cooper, William E. Jackson III, and Gary A. Patterson, "Evidence of predictability in the cross-section of bank stock returns," *Journal of Banking and Finance* 27 (2003), pp. 817–850.

[108] I used the Holding Companies Name List provided by the Federal Reserve Bank of Chicago to identify all BHCs and FHDs. The Holding Companies Name List provides basic entity information for all holdings companies within the Federal Reserve's database and is updated as of November 5, 2012, and accessible at

quarterly form FR Y-9C (Consolidated Financial Statements for Bank Holding Companies) filed with the Fed as well as market data available through CRSP.[109] This data set provided a large enough sample of financial institutions for a regression analysis with comparably reported financial data for each to construct the variables.

79. Using this database, I constructed the independent variables used by Cooper et al. with a few adjustments.[110] The variables I constructed are the quarterly percentage changes relative to the mean of the last four quarters of (1) earnings per share, (2) loans-to-total assets, (3) loan-loss reserves to total loans, (4) non-interest income to net income, (5) unused loan commitments to total loans, (6) total standby letter of credits to total loans, and (7) net leverage ratio. Instead of the leverage metric used by Cooper et al., I constructed a net leverage ratio for each financial institution based upon Lehman's methodology as well as two different decompositions of this net leverage ratio:

> (1) net leverage attributable to net assets related to U.S. Treasuries, U.S. Agency debt, and securities issued by states and political subdivisions in the U.S. and net leverage attributable to the remainder of net assets; and
>
> (2) net leverage attributable to net assets related to U.S. Treasuries, U.S. Agency debt, and securities issued by states and political subdivisions in the U.S. as well as other types of assets used in Repo 105s and net leverage attributable to the remainder of net assets.

I also included the quarterly book-to-market ratio and market capitalization of equity.

80. I analyzed the period February 2007 through August 2008, the month prior to Lehman's bankruptcy.[111] It was essential to focus on a period when the financial crisis affected asset values

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http://www.chicagofed.org/digital_assets/others/banking/financial_institution_reports/bhcnames.txt. The asset size requirement to file a form FR Y-9C with the Federal Reserve changed in the first quarter of 2006 when it was increased from $150 million to $500 million. *See, e.g.*, Instructions for Preparation of Financial Statements for Bank Holding Companies, FR Y-9C, March 31, 2006.

[109] All U.S. bank and financial holding companies that meet certain criteria are required to file form FR Y-9C with the Federal Reserve. *See*, *e.g.*, Instructions for Preparation of Financial Statements for Bank Holding Companies, FR Y-9C, March 31, 2006.

[110] Michael J. Cooper, William E. Jackson III, and Gary A. Patterson, "Evidence of predictability in the cross-section of bank stock returns," *Journal of Banking and Finance* 27 (2003), pp. 822–825.

[111] I have not developed a model for the pre-financial crisis period due to data limitations. The form FR Y-9C only reports junior subordinated debt, an input to net leverage, starting in Q1 2005. This limitation and the characteristics of the model impose that the first monthly stock return that I could consider is that of June 2006, which would

in order to understand the market's reaction to assets that were relatively stable during the financial crisis, like the assets used in Repo 105s. As discussed above in Section III.e, several events occurred in February 2007 indicating a change in the market's perception of mortgage-related assets.

81. Following the technique implemented by Cooper et al., I used monthly cross-sectional regressions to estimate the statistical significance of the different variables. As shown in Exhibit 27, I find three results. First, the relationship between stock returns and the net leverage ratio variable is not statistically significant. In other words, there is no economic basis to conclude that changes in net leverage ratios impact investor expectations about future returns.

82. Second, with respect to the first decomposition of net leverage, the relationship between stock returns and the variable for net leverage related to debt backed by U.S. or local governments was not found to be statistically significant whereas the portion related to other assets was. This supports my findings, described in the above sections, that there is no economic basis to conclude that changes in net leverage ratios attributable to securities backed by U.S. or local governments impact investor expectations about future returns. At the same time, this analysis shows there is a basis to conclude that changes in net leverage ratios attributable to other types of assets impact investor expectations.

83. Third, for the second decomposition of net leverage, the relationship between stock returns and the variable for net leverage related to the types of assets used in Repo 105s was not statistically significant whereas the portion related to other assets was. This supports my findings, described in the above sections, that there is no economic basis to conclude that changes in net leverage ratios attributable to the types of securities used in Repo 105s impact investor expectations about future returns. At the same time, this analysis shows there is a basis to conclude that changes in net leverage ratios attributable to the types of assets not used in Repo 105s impact investor expectations. This supports my understanding that investors were focused on financial institutions holdings of assets other than the types used in Repo 105s, for example

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provide only eight months of data for the model (June 2006 through January 2007). *See, e.g.*, Forms FR Y-9C for Q4 2004 and Q1 2005.

illiquid and real-estate related assets, and not the financial institutions overall net leverage ratios *per se*.

84. In sum, these empirical results support my findings, described above, that there is no economic basis for concluding that a higher net leverage ratio associated with liquid, low-risk assets—the types of assets used in Repo 105s—would have been perceived by the market as having any meaningful impact on Lehman's overall financial condition with respect to market risk.

c. No Basis Establishing That The Perception Of Lehman's Liquidity Risk Would Have Been Meaningfully Impacted

85. There is no economic basis establishing that a specific disclosure of Lehman's Repo 105s would have meaningfully impacted the market's perception of Lehman's liquidity risk, specifically the possibility of a crisis in confidence. First, the market was aware of the risk of mass counterparty withdrawal, that is, a crisis in confidence or run on the bank. There is no economic basis establishing that the market's perception of this risk would have been altered by knowledge of Lehman's financial reporting for Repo 105s. The risk of counterparty withdrawal, as well as the potential negative effect of such an event, is not necessarily any greater with an additional amount of repos, especially over-collateralized repos using assets comprising low-risk, liquid securities, as was the case for Repo 105s. Second, the market believed this risk was substantially mitigated. Market participants took comfort in Lehman's large liquidity pool and unencumbered assets as well as the Fed's lending programs. Even assuming the market did perceive an incremental amount of liquidity risk associated with Repo 105s, that risk would have been considered to be similarly mitigated.

i. Background On Liquidity Risk And Repos

86. Liquidity risk is the risk that a firm will have insufficient liquidity to satisfy its immediate operating and financing needs. Rollover, or refinancing, risk in particular exists when a borrower faces potential uncertainty in its ability and/or the cost to continue refinancing its borrowings, if needed, as they come due. In the case of repos in particular, rollover risk comes from two sources: counterparty credit risk and asset risk. Increases in either risk can result in

higher borrowing costs in the form of increased haircuts or repo rates and/or the inability to use those assets (or other assets) for funding at all.

87. For investment banks in particular, which are heavily reliant upon short-term funding including repos, a major source of liquidity risk is the risk that counterparties and/or clearing banks decline to provide funding on any terms, or without substantial amounts of collateral. Because repos typically have very short terms, often overnight, "[i]f a dealer bank's repo creditors fail to renew their positions en masse, the ability of the dealer to finance its assets with sufficient amounts of new private-sector cash on short notice is doubtful."[112] If a dealer cannot raise funds through the repo market, the dealer may need to seek other immediate sources of cash, including selling its assets.

ii. Crisis In Confidence Risk

88. After Bear Stearns' collapse, market participants were aware of the risk that counterparties could withdraw their support of Lehman if confidence deteriorated. *See* Exhibit 28 for a compilation of relevant quotations from analyst reports. In its June 9, 2008, report, Moody's explained:

> The rating agency noted that the recent collapse of Bear Stearns highlights the vulnerability of the secured funding model of broker-dealers on overall market liquidity. When market liquidity dries up, collateral becomes harder to value, margin disputes arise and liquidity pressure increases on broker-dealers.[113]

In its July 14, 2008, report, Fox-Pitt Kelton noted:

> We continue to believe that the decline in Lehman's stock has little to do with the company's liquidity and balance sheet, but is more based on investors' pricing in the probability of a Bear Stearns-like run-on-the-bank. Meanwhile, we believe there is increasing danger that counterparties, creditors, and customers will be

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[112] Darrell Duffie, "The Failure Mechanics of Dealer Banks," *Journal of Economic Perspectives* 24, no. 1 (Winter 2010), pp. 51–72 at 61.

[113] Moody's Investors Service, "Moody's changes Lehman's rating outlook to negative," Global Credit Research Rating Action, June 9, 2008.

> spooked by the stock's action, thus completing the vicious cycle of a self-fulfilling prophecy.[114]

Ladenburg Thalmann and Fox-Pitt Kelton also discussed the risk:

> Lehman was also hit by speculation that some of its biggest customers had ceased doing business with the firm, which the clients denied. "Constant pounding of the company's stock with one rumor after another may eventually get to the business," said Richard Bove, an analyst at Ladenburg Thalmann & Co. "After a while, people might start worrying about doing business with Lehman. It seems there's a concentrated effort to break Lehman."[115]
>
> The risk to LEH shares: (a) fear-mongering somehow returns and a panic ensues before Lehman gets to announce its 3Q08 result in mid-Sept (ala Bear); or (b) the company's 3Q08 fortunes change and it produces another relatively large loss for the quarter.[116]

89. The market's perception of the potential for a crisis in confidence would have been unaffected by knowledge of Lehman's financial reporting for Repo 105s. A crisis in confidence leads to a "run on the bank" when counterparties withdraw funding to a firm because they expect other counterparties to also withdraw funding.[117] The potential for a crisis in confidence is endemic to the business model of Lehman and other investment banks which rely on short-term liabilities to fund long-term assets.[118] It is important to emphasize that a run on the bank does not occur because a particular counterparty withdraws or a particular funding transaction or amount of funding cannot be rolled over, but instead because a large number of counterparties withdraw

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[114] Fox-Pitt Kelton, "Lehman Brothers Going Private May Be the Best Course of Action," July 14, 2008.
[115] "Lehman Shares Sink as Fannie, Freddie Plunge Further (Update3)," *Bloomberg News*, July 10, 2008.
[116] Fox-Pitt Kelton, "Lehman Brothers Selling Neuberger Could Be Part of MBO/Going-Private," July 25, 2008, p. 5.
[117] Douglas W. Diamond and Philip H. Dybvig, "Bank runs, deposit insurance, and liquidity," *Journal of Political Economy* (1983), pp. 401–419.
[118] *See, e.g.,* William O. Fisher, "Predicting a Heart Attack: The Fundamental Opacity of Extreme Liquidity Risk," *Temple Law Review*, forthcoming (July 13, 2013), p. 30 ("In part in response to Lehman's collapse, the Fed and industry participants studied the tri-party repo market, and concluded that—as structured in 2008—that market could generate a vicious, self-magnifying dynamic. Thus, as some lenders began to flee a dealer, the others became less likely to lend for fear that an insufficient number of lenders would remain so that the dealer would live long enough to make good on even short-term loans…. The different participants in the tri-party repo structure could thereby have encouraged each other—once a run began—to continue the run until the dealer died. Research has not revealed the extent to which these dynamics affected Lehman's decline. But the speed of that decline strongly suggests that such self-magnifying dynamics played an aggravating role.").

until the bank is unable to generate sufficient liquidity to operate.[119] There is no basis to conclude that Lehman's Repo 105 counterparties were any more likely to withdraw—or that market participants would have considered those counterparties any more likely to withdraw—given the liquid and low-risk assets used in Repo 105s. This is consistent with a specific disclosure of Lehman's Repo 105s not having a meaningful impact on the market's perception of Lehman's financial condition.

iii. Liquidity Risk Of Repo 105s

90. Lehman's Repo 105s also would not have been perceived as posing any substantial amount of liquidity risk for several reasons.[120] First, assets used in Repo 105s comprised very liquid assets, which were not the market's concern with respect to liquidity risk. As discussed above in Section III.d and as shown in Exhibit 5, the assets used in Repo 105s comprised low-risk and liquid securities, including government and U.S. Agency securities. Analysts did not express concern about repos backed by these types of assets and were explicitly not concerned with repos backed by government and U.S. Agency securities. A Citigroup analyst report noted in July 2008 that "Lehman's repo book is comprised of nearly 50% government and Agency securities, for which there is a very liquid market."[121] As late as September 11, 2008, Buckingham Research indicated that one reason "[l]iquidity risk appears low" is that "greater than 50% of its repo lines are collateralized by highly liquid US Treasury and Agency securities."[122] Consistent with this, plaintiff CalPERS acknowledged that in assessing the

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[119] The Examiner similarly indicated the extent to which counterparty and market confidence were critical to Lehman's ability to survive. Examiner's Report, p. 3 ("Confidence was critical. The moment that repo counterparties were to lose confidence in Lehman and decline to roll over its daily funding, Lehman would be unable to fund itself and continue to operate.").

[120] Liquidity risk—the size of repo haircuts and the risk of rollover—depends in part on the quality of the assets, with higher quality assets at lower risk for haircuts and rollover risk. Quality of collateral is measured both as the volatility in the asset value and liquidity of the market for the asset. *See, e.g.*, Gary Gorton and Andrew Metrick, "Securitized Banking and the Run on Repo," *Journal of Financial Economics* 104, no. 3 (June 2012), pp. 425–451.

[121] Citigroup, "Analysis of Broker 10-Qs Highlighting Several New & Incremental Disclosures (GS, LEH, MS)," July 14, 2008, p. 11.

[122] Buckingham Research, "Lehman Brothers Rating Agency Risk Too High," September 11, 2008, p. 3. Deutsche Bank noted that following Bear Stearns' collapse, secured funding such as repos has become more of an issue "at least for the part related to non-treasury and non-agency." Deutsche Bank, "Lehman Brothers Holding Meeting with the CFO," April 9, 2008, p. 2.

liquidity risk related to the ability to roll over repo financing, repos backed by liquid assets do not pose liquidity risk, commenting on Lehman's repo book that:

> There's descending liquidity there. Treasury securities, slam dunk. You know, the central…the primary dealer credit facility, that's probably a slam dunk there, too…. So it's just…the ones where they have to really go to the market, they might have a little bit more problem with them.[123]

Former Lehman CFO Ian Lowitt also testified that [redacted][124] Further, according to Robert Azerad, Lehman's Global Head of Asset and Liability Management, Lehman continued to be able to enter into repo transactions with its government and Agency securities even after it filed for bankruptcy.[125]

91. Low-risk, liquid assets also faced smaller haircut increases, if any, relative to other types of assets between the spring of 2007 and fall of 2008.[126] When haircuts increase, a borrower can raise less cash for a given market value of assets, requiring the borrower to post additional assets to secure the same amount of cash, or secure less cash.[127] Comprehensive data on haircuts is limited; however, studies show that while repo haircuts generally increased during the financial crisis, this increase was zero or near zero for the most liquid assets.[128] For instance, the average haircut on U.S. short-term Treasuries remained at 2% even after Lehman failed.[129] The tri-party

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[123] Deposition of Kevin Winter, June 4, 2013, 211:12–20.

[124] Deposition of Ian Lowitt, October 2, 2013, 407:11–18.

[125] Azerad testified "[I] thought that there would be sufficient demand for Repos collateralized with government and agency securities and if I may add, after Lehman filed for bankruptcy the week of September 15, we were able to roll these securities." Deposition of Robert Azerad, July 24, 2013, 317:3–13.

[126] Arvind Krishnamurthy, "How debt markets have malfunctioned in the crisis," *Journal of Economic Perspectives* 24, no. 1 (Winter 2010), pp. 3–28.

[127] Markus K. Brunnermeier, "Deciphering the Liquidity and Credit Crunch 2007–2008," *Journal of Economic Perspectives* 23, no. 1 (Winter 2009). For example, assume a dealer financed $98 million in securities using $100 million in market value of assets, reflecting a 2% haircut. At repo expiration, the haircuts for this dealer have risen to 5%. The $100 million in assets can now finance only $95 million in securities, and the dealer must fund the additional $3 million using other sources.

[128] Arvind Krishnamurthy, "How debt markets have malfunctioned in the crisis," *Journal of Economic Perspectives* 24, no. 1 (Winter 2010), pp. 3–28 at 10.

[129] Ibid., pp. 3–28 at 10.

repo market in particular was even more stable, with evidence that "[h]aircuts in the tri-party repo market barely moved during the crisis."[130] Thus, had the market known about Lehman's financial reporting for Repo 105s, it would not have perceived a significant difference in haircut risk because low-risk, liquid assets such as those used in Repo 105s did not face substantial changes in haircuts. In fact, haircuts for Lehman were generally flat until a couple of days before bankruptcy.[131]

92. Because the assets used in Repo 105s were low risk, the risk that Lehman would be unable to roll over its Repo 105s due to a decline in the value of the assets was minimal. To examine the market risk associated with Repo 105 assets, I examined the volatility of these assets in comparison with the volatility of U.S. Treasuries and risky subprime MBS. Exhibit 29 compares the one-month rolling volatility of the overall Repo 105 portfolio returns with U.S. Treasuries and the ABX index. The volatility of the Repo 105 portfolio is much closer to U.S. Treasuries than to subprime mortgage-backed securities. There is no evidence that Repo 105 assets presented risks that were anywhere close to those associated with real estate–related and other illiquid assets on which the market was focused.

93. When asset values decline below the required margin in a repo, the borrower can post additional collateral to continue rolling over its repo financing. An analysis using Monte Carlo simulations of the returns on Repo 105 assets, described in detail below, shows that because returns on Repo 105 assets were generally stable, the expected amount that Lehman would need to ensure it could continue rolling over its repo financing amounts to only a small fraction of Lehman's liquidity pool. In addition, the overcollateralization of Repo 105s with haircuts of 5% to 8%, relative to 2% haircuts seen for repos accounted for as secured financing, helped to mitigate liquidity risk from potential market-wide haircut increases, or the risk of a decline in value of the assets used in Repo 105s.[132] The higher minimum haircuts provided cushion that

[130] Adam Copeland, Antoine Martin, and Michael Walker, "The Tri-Party Repo Market before the 2010 Reforms," Federal Reserve Bank of New York Staff Reports, no. 477 (November 2010), p. 2.

[131] The Federal Reserve Bank of New York found that "[s]urprisingly…, alongside the dramatic decrease in collateral posted, Lehman Brothers did not face higher haircuts until just before it declared bankruptcy," with its median haircut "essentially flat until Thursday, September 11, two business days before declaring bankruptcy." Adam Copeland, Antoine Martin, and Michael Walker, "The Tri-Party Repo Market before the 2010 Reforms," Federal Reserve Bank of New York Staff Reports, no. 477 (November 2010), p. 59.

[132] For example, if market haircuts on U.S. government securities increased (e.g., from 2% to 3%), the Repo 105 financing would be unaffected because the 5% haircut on those transactions would still be greater than the market

would have allowed Lehman to continue to obtain a similar amount of repo financing even when the value of the assets fluctuated.

94. My analysis of the expected amount that Lehman would need to ensure it could continue rolling over its repo financing uses Monte Carlo simulations of the returns on Lehman's Repo 105 and 108 portfolios, drawing returns from a normal distribution with mean zero and volatility equal to the volatility of these assets during the financial crisis. I used 5,000 trials to obtain the expected amount of additional collateral that Lehman would have needed to have available to ensure it could continue rolling over its Repo 105s over the next fiscal quarter. I considered various scenarios where Lehman would have needed to provide additional collateral whenever the value of the assets fell below a hypothetical required margin, which ranges from 105% to 102% for Repo 105s and between 108% and 102% for Repo 108s. Exhibits 30.1 and 30.2 show the results of these simulations. Based on the volatility of these assets during the financial crisis, if Lehman needed to begin posting additional collateral after the market value of the assets fell below margins of 102% for Repo 105s and 105% for Repo 108s, the expected amount of collateral that Lehman would have needed to have available to ensure it could continue rolling over its repo financing on the Repo 105 assets reported at the end of fiscal Q2 2008 was $32.1 million for Repo 105s and $286.8 million for Repo 108s, which combined is less than 1% of Lehman's fiscal Q2 2008 liquidity pool.

95. An analysis of repo financing and secured financing rates also indicates limited liquidity risk in the form of increased borrowing costs associated with Repo 105s. Changes in perceived risks in repo markets associated with the underlying collateral will be reflected as changes in repo rate spreads. If the market perceives an increase in risk regarding the value of assets underlying repos, the spread between the repo rate and the uncollateralized interbank rate should increase.[133] Exhibit 31 compares the repo and secured financing rate spreads for many of the

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haircut rate. In addition, since any U.S. government security used in a Repo 105 had a 5% haircut while haircuts on U.S. Treasuries were typically 2%, even if the security fell in value by 3%, it could still be used in a repo accounted for as secured financing. For fiscal Q2 2008, Lehman disclosed that it had over-funded its tri-party repo book by approximately $27 billion, which gave it "the ability to absorb changes in repo capacity in times of stress." Q2 2008 Lehman Brothers Holdings Inc. Earnings Conference Call, June 16, 2008.

[133] The spread between the repo rate and uncollateralized interbank rate is analyzed to isolate changes in repo rates attributable to the underlying collateral. Gary Gorton and Andrew Metrick, "Securitized Banking and the Run on Repo," *Journal of Financial Economics* 104, no. 3 (June 2012), pp. 24–25.

assets used in Repo 105s to the rates on ABCP, which was considered risky after August 2007.[134] As shown in the exhibit, repo spreads for many of the assets used in Repo 105s were stable prior to August 2007 and were lower than and relatively stable compared to ABCP after August 2007. The risk of increases in repo spreads for assets used in Repo 105s was also low relative to ABCP. I analyzed the risk of increases in the spreads for repos and secured financing by examining the semideviation of repo spreads. Exhibit 32 compares the semideviation in repo and secured financing rate spreads across asset types. The semideviation of the ABCP rate spread rises sharply after August 2007 and remains higher than all other asset types through 2008. In contrast, the assets in Repo 105s have much lower semideviations during this period. In fact, the G7 sovereign debt used in Repo 105s generally have semideviations below U.S. Treasuries. There is no evidence from repo spreads that Repo 105 assets posed a meaningful liquidity risk due to increased financing costs.

96. In sum, there is no economic evidence that a specific disclosure of Lehman's Repo 105s would have meaningfully impacted the market's perception of Lehman's liquidity risk.

iv. Liquidity Risk Was Considered Substantially Mitigated

97. The market believed that any liquidity risk faced by Lehman was mitigated by Lehman's large liquidity pool and unencumbered assets and the Fed's lending programs. Even assuming the market perceived some amount of additional liquidity risk associated with Repo 105s, it would have considered any such risk to be mitigated by these factors, as it believed was the case for Lehman's liquidity generally.

a) Liquidity Pool And Unencumbered Assets

98. Lehman's reported liquidity pool and unencumbered assets, known together as the "liquidity reserve," were considered by market participants to substantially mitigate Lehman's

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[134] Secured financing transactions are economically similar to repos, with the differences primarily being related to legal treatment. Tobias Adrian et al., "Repo and Securities Lending," Federal Reserve Bank of New York Staff Reports, no. 529 (December 2011), p. 2. Securities lending transactions were not available for corporate bonds, but are generally either lower than, or at least comparable to, common stock. Paul Asquith et al., "The Market for Borrowing Corporate Bonds," working paper (October 20, 2011), p. 41.

liquidity risk, especially after Bear Stearns' collapse. *See* Exhibit 28 for a compilation of relevant quotations from analyst reports.

99. Lehman's liquidity pool comprised liquid assets that could be sold quickly to generate cash. The liquidity pool was held at the Holdings level and consisted of cash equivalents, G7 government bonds, U.S. Agency securities, investment grade asset-backed securities, and other liquid securities that Lehman believed to have a highly reliable pledge value. The liquidity pool was intended to be large enough to cover expected cash outflows for a 12-month period in a stressed liquidity environment, including cash outflows associated with the repayment of short-term unsecured debt, funding commitments to extend credit, anticipated adverse changes on secured funding, anticipated funding requirements of equity repurchases, and the impact of a one-notch downgrade in Lehman's long-term debt ratings. In assessing the size of the liquidity pool, Lehman assumed that assets outside the liquidity pool could not be sold to generate cash, unsecured debt could not be issued, and any cash or other unencumbered assets outside the liquidity pool could not be used to support the liquidity pool.[135]

100. Unencumbered assets are assets that are not pledged as collateral and therefore are readily available to raise funds through a sale or from secured lending as needed.[136] Unlike the liquidity pool, however, Lehman's unencumbered assets were not necessarily only liquid instruments with high collateral pledge value.

101. There are no allegations that a specific disclosure of Lehman's Repo 105s would have affected its liquidity pool or unencumbered assets. Market participants focused on the total size and trend in these reported liquidity measures, which presumably would have been unaffected by any such disclosure. As shown in Exhibit 33, Lehman's liquidity reserve was typically larger than those of Goldman Sachs, Morgan Stanley, and Bear Stearns. In order to compare across firms, some market participants considered Lehman's liquidity as a percentage of total equity or total assets. Lehman's financial reporting for Repo 105s had no effect on Lehman's liquidity pool as a percentage of total equity. As shown in Exhibit 34, Lehman's liquidity pool as a percent of total assets would have declined by less than 1 percentage point. Exhibit 35 shows

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[135] *See, e.g.*, Lehman 2007 10-K, pp. 56–57.
[136] *See, e.g.*, ibid., p. 57.

that, when considering the liquidity reserve (liquidity pool and unencumbered assets) as a percent of total assets, Lehman's ratio would have declined but remained the highest among its peer group for fiscal Q1 and fiscal Q2 2008.[137]

b) Fed Facilities: PDCF, TSLF, And ST OMO

102. Beyond Lehman's liquidity reserve, the market believed Lehman's liquidity risk was substantially mitigated by the Fed's lending programs. After Bear Stearns collapsed, the Fed launched three lending facilities that provided liquidity to primary dealers: the Primary Dealer Credit Facility ("PDCF"), the Term Securities Lending Facility ("TSLF"), and the Single-Tranche Open Markets Operations Program ("ST OMO"). Established in March 2008, these facilities provided distinct options to primary dealers in the event that they were unable to obtain funding through the private markets.

103. The PDCF was an overnight loan facility established by the Fed in March 2008, immediately following Bear Stearns' collapse and takeover by J.P. Morgan. The PDCF provided a backup source of funding to primary dealers. It was "designed to help restore the orderly functioning of the market and to prevent the spillover of distress to other financial firms" and "intended to help the repo market to continue functioning efficiently during an adverse liquidity spiral."[138] Eligible dealers, including Lehman, could transfer assets to the PDCF for overnight cash from the Fed, similar to the repo transactions they would conduct with investors in the repo market.

104. The PDCF was a standing facility, such that primary dealers could access funding on a continuous, as needed basis. U.S. Treasuries, U.S. Agency securities, and investment grade corporate debt were eligible for PDCF funding. The repo rate on PDCF transactions was the primary credit rate at the New York Fed, and haircuts were generally set lower than those

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[137] Lehman's other unencumbered assets for fiscal Q3 2008 were not disclosed prior to bankruptcy.

[138] Tobias Adrian, Christopher Burke, and James McAndrews, "The Federal Reserve's Primary Dealer Credit Facility," Federal Reserve Bank of New York, *Current Issues in Economics and Finance* 15, no. 4 (August 2009), pp. 1, 4. The PDCF also injected $24 billion in overnight credit into the interbank market in August 2007. Markus K. Brunnermeier, "Deciphering the Liquidity and Credit Crunch 2007–2008," *Journal of Economic Perspectives* 23, no. 1 (Winter 2009), pp. 77–100 at 85.

available in repo markets during the crisis period.[139] Access to the PDCF was limited only by the value of eligible assets.[140]

105. Equity analysts consistently cited the comfort provided by the Fed's PDCF. *See* Exhibit 28 for a compilation of relevant quotations from analyst reports. For example, after Bear Stearns' collapse in March 2008, a Citigroup analyst report noted that "it's tough to have a liquidity-driven meltdown when you're being backed by government entities that have the ability to print money."[141] Morgan Stanley noted that the "PDCF serves as a 'backstop' for the group against another 'run-on-the-broker' scenario from playing out."[142] A Merrill Lynch analyst report stated that "for the time being recent Fed actions appear to have eliminated the possibility of another Bear Stearns type run."[143] As late as September 2008, analysts still commented that "Fed actions appear to have eliminated the possibility of another Bear Stearns type run"[144] and that "[w]e don't see any potential liquidity issues with the Fed backstop in place."[145] On September 11, 2008, a UBS analyst report stated that it "believe[s] that Lehman's counterparties (especially the US ones) aren't going anywhere thanks to the Fed facility."[146]

106. The PDCF helped to calm markets after the Bear Stearns collapse even though it was rarely accessed. Dealers typically accessed the PDCF only after they had exhausted other Fed lending facilities like the TSLF, discussed below.[147]

107. The TSLF was also established to inject liquidity into repo markets. The TSLF was a weekly auction in which dealers could pledge securities in exchange for U.S. Treasuries, which

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[139] Tobias Adrian, Christopher Burke, and James McAndrews, "The Federal Reserve's Primary Dealer Credit Facility," Federal Reserve Bank of New York, *Current Issues in Economics and Finance* 15, no. 4 (August 2009), p. 8.

[140] Assets were valued by third-party clearing banks using vendor pricing services to determine the "margin-adjusted" value. Ibid., p. 5.

[141] Citi, "Lehman Brothers Holdings Inc (LEH) Upgrading To Buy; Reality Will Trump Fear," March 28, 2008, p. 1.

[142] Morgan Stanley, "Lehman Brothers Bruised, Not Broken – and Poised for Profitability," June 30, 2008, p. 8.

[143] Merrill Lynch, "Cutting PO to $25 as earnings remain elusive," July 28, 2008, p. 7.

[144] Merrill Lynch, "Cutting forecasts on asset-sale scramble, capital raising," September 8, 2008, p. 11.

[145] Citi, "Lehman Brothers Holdings Inc (LEH) Perception Trumps Fundamentals For Now, Downgrading To Hold," September 11, 2008, p. 1.

[146] UBS Investment Research, "Crunch Time for Lehman," September 11, 2008, p. 2.

[147] Arvind Krishnamurthy, Stefan Nagel, and Dmitry Orlov, "Sizing Up Repo," NBER Working Paper, no. 17768 (January 2012), pp. 48–49.

in turn are relatively easy to finance. The TSLF provided U.S. Treasuries for 28-day terms as opposed to short term cash like the PDCF.[148]

108. Eligible securities included U.S. Treasuries, U.S. Agency securities, and investment grade debt securities.[149] Before every auction, the Fed announced the amount of U.S. Treasuries it planned to auction. Interest rates were set at the lowest rate at which bids were accepted for the offering, conditional on being above a minimum fee. The fee was set above the cost of borrowing U.S. Treasuries in the private markets under normal conditions.[150] Nevertheless, due to distress in financial markets, TSLF fees are estimated to have been significantly lower than in rates available in private markets.[151] Unlike the PDCF, where funds available were limited only by the value of eligible securities, the Fed announced that it would limit the funding supply through the TSLF to $200 billion. Moreover, any one dealer, such as Lehman, could only account for, at most, 20% of the total amount offered by the TSLF during an auction.[152]

109. The ST OMO provided dealers with additional liquidity through 28-day repos. The set of securities eligible for the ST OMO was narrower than for the PDCF and TSLF; the ST OMO accepted U.S. Treasuries and U.S. Agency securities in exchange for cash.[153] Unlike the TSLF, there was no minimum fee for accessing the ST OMO.

110. In sum, the Fed lending facilities comprised several options for raising liquidity if private markets for those assets broke down. Market participants took comfort from their presence,

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[148] Federal Reserve Bank of New York, Term Securities Lending Facility: Frequently Asked Questions, accessed at http://www.newyorkfed.org/markets/tslf_faq.html.

[149] Examination of TSLF usage data from the Federal Reserve indicates that non-Agency MBS, CMOs, and ABS were accepted. TLSF Data, accessed at http://www.federalreserve.gov/newsevents/reform_tslf.htm#data.

[150] The minimum fee depends on the assets being pledged. The minimum fee is 10 basis points for Schedule 1 assets, which include U.S. Treasuries and Agency securities. The minimum fee is 25 basis points for Schedule 2 assets, which prior to May 8, 2008, were defined as Schedule 1 assets plus AAA/Aaa-rated non-Agency RMBS, commercial MBS, and Agency CMOs. Michael J. Fleming, Warren B. Hrung, and Frank M. Keane, "The Term Securities Lending Facility: Origin, Design, and Effects," *Current Issues in Economics and Finance* 15, no. 2 (2009), p. 5.

[151] Arvind Krishnamurthy, Stefan Nagel, and Dmitry Orlov, "Sizing Up Repo," NBER Working Paper, no. 17768 (January 2012), p. 47.

[152] Michael J. Fleming, Warren B. Hrung, and Frank M. Keane, "The Term Securities Lending Facility: Origin, Design, and Effects," *Current Issues in Economics and Finance* 15, no. 2 (2009), pp. 3 and 5.

[153] The securities eligible for the ST OMO are the same as those eligible for conventional open market operations. Federal Reserve Bank of New York, Fast Facts: Single-Tranche Term Repurchase Agreements, accessed at http://www.newyorkfed.org/markets/fast_facts_stomo.html.

expressing that they substantially mitigated Lehman's liquidity risks.[154] In addition, some assets used in Repo 105s were eligible for use in these Fed facilities, providing further evidence that a specific disclosure of Lehman's Repo 105s would not have altered the market's perception of Lehman's liquidity risk.

d. No Economic Basis Establishing That The Perception Of Lehman's Bankruptcy Risk Would Have Been Meaningfully Impacted

111. Against the backdrop of Lehman's liquidity pool, Fed facilities, and the possibility of U.S. government assistance, there is no economic basis establishing that there would have been any meaningful impact from a specific disclosure of Lehman's Repo 105s on the market's perception of the bankruptcy risk Lehman faced.

i. Lehman's Bankruptcy

112. As discussed in Section IV.b.iv, as conditions in real estate markets deteriorated, market participants expressed doubts about the value of Lehman's real estate–related assets and its capital adequacy. This uncertainty led investors and Lehman's repo clearing bank, J.P. Morgan, to rapidly withdraw repo funding in the week before Lehman's bankruptcy.[155] A crisis in confidence and run on the bank ensued. Lehman was no longer able to finance its operations. Barclays, Lehman's last potential acquirer, was unable to begin the acquisition process without government guarantees on Lehman's troubled assets.[156] The U.S. government ultimately refused, and Lehman filed for bankruptcy. Uncertainty about Lehman's losses from its exposure to real estate–related assets, concerns over a political reaction, and an underestimate of the impact of Lehman's bankruptcy on the financial system contributed to the Fed's decision not to provide government assistance in a potential buyout.[157]

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[154] New Jersey testified that [redacted] Deposition of William Clark, July 23, 2013, 89:6–23.

[155] Adam Copeland, Antoine Martin, and Michael Walker, "The Tri-Party Repo Market before the 2010 Reforms," Federal Reserve Bank of New York Staff Reports, no. 477 (November 2010), p. 58. *See also* FCIC Report, p. 333.

[156] FCIC Report, p. 336. Barclays needed the FSA's approval to waive a shareholder vote, which could take 30 to 60 days, on the issue of whether Barclays should guarantee Lehman's obligations until the purchase was finalized.

[157] Ibid., p. 343.

ii. Bankruptcy Risk Was Considered Mitigated

113. A specific disclosure of Lehman's Repo 105s would not have substantially affected the market's perception that even if Lehman's liquidity pool or liquidity provided by Fed facilities was insufficient to alleviate a crisis in confidence, Lehman could be acquired and, if needed, the U.S. government would provide assistance in a potential buyout to avoid a Lehman bankruptcy. Market participants acknowledged that Lehman may have required an entire firm sale, either in conjunction with a strategic partner or in a hostile takeover:

> There has been endless debate over whether it will sell its Asset Management business in order to generate needed capital, or whether it will seek to sell itself or to raise capital via a strategic partner.[158]

> OPTION 1: …we believe an MBO/going-private transaction is feasible, and while not ideal, would be preferable to Bear's fate… OPTION 2: Mgmt may sell to a strategic buyer (a private equity deal would represent the going-private scenario above), but such a buyer would hold all the cards; we believe Lehman insiders would pay more (in an MBO).[159]

> I continue to believe that the only rational result is a hostile takeover.[160]

> It is increasingly evident that outside intervention in the form of a hostile takeover is a necessity.[161]

114. Even if Lehman was not acquired by another company, either strategic or hostile, the market perception was that the U.S. government considered Lehman "too big to fail" and would not allow a Lehman bankruptcy, especially after the rescue of Bear Stearns. Market participants indicated that the worst-case scenario was anticipated to be a Bear Stearns–like government-assisted takeover. For example, in a September 8, 2008, report, Bernstein Research noted the risk that Lehman could incur "a forced 'shotgun marriage,' like the one Bear Stearns and its

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[158] Merrill Lynch, "Cutting forecasts on asset-sale scramble, capital raising," September 8, 2008, p. 3.
[159] Fox-Pitt Kelton, "Final Options For Saving the Company," September 9, 2008, p. 1.
[160] Ladenburg Thalmann, "Lehman Brothers (LEH)," September 9, 2008, p. 1.
[161] Ladenburg Thalmann, "Lehman Brothers (LEH)." September 11, 2008, p. 1.

stockholders endured."[162] In a report the same day, Bank of America stated that Lehman's situation was "very binary, with a worst case scenario including a [Bear Stearns] type of bail-out/outright sale."[163] In reports from September 11 and 12, 2008, HSBC noted:

> [Lehman] also has one thing that it shares with Bear Stearns—it is too big to fail in our opinion. The interconnectedness of the firm within the global financial system is firmly bound. We have to believe that no regulator or central banker really wants to find out what a massive counterparty risk failure would look like.[164]

> Market speculation continues to centre around Bank of America (unrated) as the most likely buyer of the bulk of the Lehman business, following perhaps a government-sponsored hiving off of the highest-risk assets (e.g. much of the commercial real estate) into a separate entity or "bad" bank and the provision of put options on certain remaining assets.[165]

Peter Wallison, in his dissenting opinion to the FCIC final report, found that "investors and other market participants reasonably believed after the rescue of Bear that all large financial institutions would also be rescued if they encountered financial difficulties."[166] [redacted][167, 168]

115. Lehman's financial reporting for Repo 105s was unrelated to and would have neither affected nor concealed the factors contributing to the Fed's stated rationale for rescuing Bear Stearns or the factors contributing to its rationale for not rescuing Lehman. Therefore, any

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[162] Bernstein Research, "LEH: Analyzing the Firm's Shrinking Options...," September 8, 2008, p. 2.

[163] Bank of America, "Lehman Brothers Holdings Inc." September 9, 2008, p. 3.

[164] HSBC Global Research, "De-risking and depending on markets to hold," September 11, 2008, p. 5.

[165] HSBC Global Research, "The end-game. Removing Neutral (V) rating and target price and placing both under review," September 12, 2008, p. 1.

[166] Peter J. Wallison, "Dissent from the Majority Report of the Financial Crisis Inquiry Commission," American Enterprise Institute for Public Policy Research (January 14, 2011), p. 3.

[167] The former director of the New Jersey Division of Investment testified that [redacted] Deposition of William Clark, July 23, 2013, 288:14–289:2.

[168] Plaintiff San Mateo County's Rule 30(b)(6) representative testified that [redacted] Deposition of Charles M. Tovstein, August 28, 2013, 80:25–81:3.

specific disclosure of Lehman's Repo 105s would not have affected the market's perception that the Fed would assist. The Fed provided assistance in the purchase of Bear Stearns because it considered Bear Stearns to be too interconnected to fail.[169] The Fed's decision not to assist in a buyout of Lehman centered on uncertainty about Lehman's losses from its exposure to real estate–related assets, concerns over a political reaction, and an underestimate of the impact of Lehman's bankruptcy on the financial system.[170]

Executed this 18th day of October, 2013.

Allen Ferrell

[169] FCIC Report, p. 291.
[170] Ibid., p. 343.

Appendix A
CV of Allen Ferrell, Ph.D.

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CURRENT POSITIONS

Greenfield Professor of Securities Law, Harvard Law School

Member, American Law Institute Project on the Application of U.S. Financial Regulations to Foreign Firms and Cross-Border Transactions

Member of Editorial Board, Journal of Financial Perspectives

Fellow, Columbia University's Program on the Law and Economics of Capital Markets

Faculty Associate, Kennedy School of Government

Research Associate, European Corporate Governance Institute

EDUCATION

Massachusetts Institute of Technology, Ph.D. in Economics, 2005
Fields in econometrics and finance

Harvard Law School, J.D., 1995, *Magna Cum Laude*

- Recipient of the *Sears Prize* (award given to the two students with the highest grades)
- Editor, *Harvard Law Review*

Brown University, B.A. and M.A., 1992, *Magna Cum Laude*

PREVIOUS POSITIONS

Harvard University Fellow
Harvard Law School, 1997

Law Clerk, Justice Anthony M. Kennedy
Supreme Court of the United States; 1996 Term

Law Clerk, Honorable Laurence H. Silberman
United States Court of Appeals for the District of Columbia; 1995 Term

COURSES TAUGHT

Securities Regulation
Regulation of Market Structure
Law and Finance
Corporate Finance
Contracts

REFEREE FOR FOLLOWING JOURNALS

Quarterly Journal of Economics
Journal of Financial Perspectives
American Law and Economics Review
Journal of Corporation Finance
Journal of Law, Economics and Organization
Journal of Legal Studies

Consulting Areas

Securities Damages, Valuation, Mergers & Acquisitions

Papers

"Thirty Years of Shareholder Rights and Firm Valuation," with Martijn Cremers, *forthcoming Journal of Finance*

"Thirty Years of Shareholder Rights and Stock Returns," with Martijn Cremers, *revise and resubmit Journal of Financial Economics*

"Calculating Damages in ERISA Litigation", 1 *Journal of Financial Perspectives* 93 (2013)

"Forward-casting 10b-5 Damages: A Comparison to other Methods", with Atanu Saha, 37 *Journal of Corporation Law* 365 (2011)

"Event Study Analysis: Correctly Measuring the Dollar Impact of an Event" with Atanu Saha, Working Paper (2011)

"An Asymmetric Payoff-Based Explanation of IPO 'Underpricing'," Working Paper, with Atanu Saha

"Legal and Economic Issues in Litigation arising from the 2007-2008 Credit Crisis," with Jennifer Bethel and Gang Hu, in PRUDENT LENDING RESTORED: SECURITIZATION AFTER THE MORTGAGE MELTDOWN (Brookings Institution Press 2009)

"Securities Litigation and the Housing Market Downturn," with Atanu Saha, 35 *Journal of Corporation Law* 97 (2009)

"The Supreme Court's 2005-2008 Securities Law Trio: *Dura Pharmaceuticals*, *Tellabs*, and *Stoneridge*," 9 *Engage* 32 (2009)

"What Matters in Corporate Governance?" with Lucian Bebchuk & Alma Cohen, 22 *Review of Financial Studies* 783 (2009)

"Do Exchanges, CCPs, and CSDs have Market Power?," in GOVERNANCE OF FINANCIAL MARKET INFRASTRUCTURE INSTITUTIONS (editor Ruben Lee) (2009)

"The Law and Finance of Broker-Dealer Mark-Ups," commissioned study for NASD using proprietary database (2008)

"Majority Voting" in REPORT OF THE COMMITTEE ON CAPITAL MARKETS REGULATION (2008)

"The Loss Causation Requirement for Rule 10B-5 Causes of Action: The Implications of *Dura Pharmaceuticals v. Broudo*," with Atanu Saha, 63 BUSINESS LAWYER 163 (2007)

"Mandated Disclosure and Stock Returns: Evidence from the Over-the-Counter Market," 36 *Journal of Legal Studies* 1 (June, 2007)

"Policy Issues Raised by Structured Products," with Jennifer Bethel, in BROOKINGS – NOMURA PAPERS IN FINANCIAL SERVICES, Brookings Institution Press, 2007

"The Case for Mandatory Disclosure in Securities Regulation around the World," 2 *Brooklyn Journal of Business Law* 81 (2007)

"U.S. Securities Regulation in a World of Global Exchanges," with Reena Aggarwal and Jonathan Katz, in EXCHANGES: CHALLENGES AND IMPLICATIONS, Euromoney (2007)

"Shareholder Rights" in REPORT OF THE COMMITTEE ON CAPITAL MARKETS REGULATION (2007)

"Creditor Rights: A U.S. Perspective," 22 *Angler- und Glaubigerschutz bei Handelsgesellschaften* 49 (2006)

"Measuring the Effects of Mandated Disclosure," 1 *Berkeley Business Law Journal* 369 (2004)

"If We Understand the Mechanisms, Why Don't We Understand the Output?", 37 *Journal of Corporation Law* 503 (2003)

"Why European Takeover Law Matters," in REFORMING COMPANY AND TAKEOVER LAW IN EUROPE (Oxford University Press) (2003)

"Does the Evidence Favor State Competition in Corporate Law?", with Alma Cohen & Lucian Bebchuk, 90 *California L. Rev.* 1775 (2002)

"Corporate Charitable Giving," with Victor Brudney, 69 *Univ. Of Chicago Law Review* 1191 (2002)

"A Comment on Electronic versus Floor-Based Securities Trading," *Journal of Institutional and Theoretical Economics* (Spring 2002)

"Much Ado About Order Flow," *Regulation Magazine* (Spring 2002)

"On Takeover Law and Regulatory Competition," with Lucian Bebchuk, 57 *Business Lawyer* 1047 (2002)

"Federal Intervention to Enhance Shareholder Choice," with Lucian Bebchuk, 87 *Virginia Law Review* 993 (2001)

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"Federalism and Takeover Law: The Race to Protect Managers from Takeovers," with Lucian Bebchuk, 99 *Columbia L. Rev.* 1168 (1999)

TESTIMONY LAST FOUR YEARS

SEC v. Moshayedi, Case No. 12-CV-01179-JVS-JPR, Expert Report and deposition on July 30, 2013

In re Bank of America Corporation Securities, Derivative and ERISA Litigation, Case No. 09 MDL 2058, Expert Report and deposition on July 26, 2013

Schneider v. Primerica Inc., FINRA Case No. 11-04751, Arbitration hearing on March 24-25, 2013

CMMF, LLC v. J.P. Morgan Investment Management, Inc & Ted Ufferfilge, Case No. 09-601924, Trial Testimony in Supreme Court in the State of New York, January 28-29, 2013 and deposition on September 20, 2012

In re Bank of America Corporation Securities, Derivative, & ERISA Litigation, Case No. 09-MDL-2058, Expert Reports and deposition on May 22, 2012

Securities and Exchange Commission v. Tambone & Hussey, Case No. 06-CV-10885-NMG, Expert Reports and deposition on January 13, 2012

Hayes v. Merrill Lynch, Pierce, Fenner & Smith, Inc., FINRA Case No. 11-00432, Arbitration hearing on January 10, 2012

In re Citigroup Securities Litigation, Case No. 07-CV-9901, Expert Report and deposition on November 11, 2011

In re Bank of America Corporation Securities, Derivative, & ERISA Litigation, Case No. 09-MDL-2058, Expert Report and deposition on October 13, 2011

Pacific Select Fund v. Bank of New York Mellon, Case No. SACV10-00198, Expert Report and deposition on September 21, 2011

Bacon et. al. v. Stiefel Laboratories, Case No. 09-21871-CV-KING, Expert Report and deposition on July 22, 2011

Abu Dhabi Investment Authority v. Citigroup, Case No. 50148T 0065009 (Arbitration Proceeding), Expert Reports and Testimony on May 11, 2011

Nacco Industries, et al. v. Applica Incorporated, et al, Case No. 2541-N; Expert Report and deposition on December 15, 2010

Black Horse Capital, et al. v. JP Morgan Chase Bank, et al., Case No. 08-12229; Expert Report and deposition on November 28, 2010

SEC v. John Kelly, Case No. 4612; Expert Report and deposition on May 17, 2010

In re Schwab Corp. Securities Litigation, Case No. 08-cv-1510, Expert Report and deposition on January 15, 2010

In re Ticketmaster Entertainment Shareholder Litigation, Lead Case No. BC407677, Expert Report and deposition on December 3, 2009

In re Boston Scientific, Civil Action No. 1:05-CV-11934, Expert Report and deposition on October 13, 2009

Appendix B
Documents Considered

Document Title	Bates / Source	Date
Legal Pleadings and Expert Reports		
Complaint, *Joseph P. Danis v. Ernst & Young, LLP, et al.*		4/10/2010
Third Amended Class Action Complaint for Violations of the Federal Securities Law, *in re: Lehman Brothers Securities and ERISA Litigation*		4/23/2010
Complaint, *Michael Lane, et al. v. Advisors Asset Management, Inc., et al.*		4/26/2010
Complaint, *Epstein Real Estate Advisory Retirement Trust and Ben Joseph Trust v. Richard S. Fuld, Jr., et al.*		7/21/2010
Small Claims Writ and Notice of Suit, *William Reeves v. Ernst & Young*		2/4/2011
Plaintiff's Claim and ORDER to Go to Small Claims Court, *Phil Walker and Lorraine Walker v. Ernst & Young, LLP*		2/4/2011
Amended Complaint, *Starr International U.S.A Investments LC and C.V. Starr & Co., Inc. Trust v. Ernst & Young, LLP*		10/4/2011
Amended Complaint Alleging a Claim for Monetary Damages Caused by the Negligence, Fraud, Misrepresentation and Violation of Securities Act Sections 11, 12, and 15, *Sylvia Remer v. Richard S. Fuld, Jr., et al.*		10/6/2011
Amended Complaint for Violation of the Federal Securities Laws and Washington State Law, *Washington State Investment Board v. Richard S. Fuld, Jr., et al.*		10/6/2011
Second Amended Complaint, *The State of New Jersey, Department of Treasury Division of Investment v. Richard S. Fuld Jr., et al.*		10/7/2011
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Second Amended Complaint for Violation of the Federal Securities Laws, *California Public Employees' Retirement System v. Fuld, et al.*		11/29/2011
Amended Complaint, *Fifty-Ninth Street Investors LLC, and Arthur N. Abbey v. Ernst & Young LLP, et al.*		11/29/2011
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Consolidated First Amended Complaint, *Vallejo Sanitation and Flood Control District v. Fuld, et al.* ; *Mary A. Zeeb, Monterey County Treasurer, on Behalf of the Monterey County Investment Pool v. Fuld, et al.* ; *Contra Costa Water District v. Fuld, et al.* ; *City of Burbank v. Fuld, et al.* ; *City of San Buenaventura v. Fuld, et al.* ; *City of Auburn v. Fuld, et al.* ; *The San Mateo County Investment Pool v. Fuld, et al.* ; *Zenith Insurance Company v. Fuld, et al.*		11/29/2011
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Expert Report of Professor Kenneth M. Lehn, *in re: Lehman Brothers Securities and ERISA Litigation*		10/18/2013
Expert Report of William J. Chambers, Ph.D., *in re: Lehman Brothers Securities and ERISA Litigation*		10/18/2013
Expert Report of Gregg A. Jarrell, *in re: Lehman Brothers Securities and ERISA Litigation* and related production		2/3/2012
Depositions		
Deposition of Charles Tovstein, with Exhibits		8/28/2013
Deposition of Christopher O'Meara, Vol. I, with Exhibits		9/19/2013
Deposition of Christopher O'Meara, Vol. II, with Exhibits		9/20/2013
Deposition of Edward Matthews, with Exhibits		7/10/2013
Deposition of Erin Callan, Vol. I, with Exhibits		9/17/2013
Deposition of Erin Callan, Vol. II, with Exhibits		9/18/2013
Deposition of Ian Lowitt, Vol. I, with Exhibits		10/1/2013
Deposition of Ian Lowitt, Vol. II, with Exhibits		10/2/2013
Deposition of John Feraca, with Exhibits		6/18/2013
Deposition of John Feraca, with Exhibits		6/19/2013
Deposition of Kevin A. Winter, with Exhibits		6/4/2013
Deposition of Lawrence P. Bancroft, with Exhibits		3/20/2012
Deposition of Marie Stewart, with Exhibits		7/24/2013
Deposition of Paolo Tonucci, Vol. I, with Exhibits		7/2/2013
Deposition of Paolo Tonucci, Vol. II, with Exhibits		7/3/2013
Deposition of Peter Guastamachio, with Exhibits		8/2/2013
Deposition of Robert Azerad, with Exhibits		7/24/2013
Deposition of William Clark, with Exhibits		7/23/2013

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Produced Documents		
Repo 105 and Repo 108 Data Q4 2007	LBEX-DOCID 3219746	
Repo 105 and Repo 108 Data Q1 2008	LBEX-DOCID 3219760	
Repo 105 and Repo 108 Data Q2 2008	LBEX-DOCID 2078195	
Repo 105 and Repo 108 Data Q3 2008	LBEX-DOCID 3361504	
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CSE Overview	LBEX-DOCID 382979	8/8/2007
Lehman Brothers, Quantitative Risk Management	LBEX-DOCID 384020	
Analyst Reports		
Lehman Brothers rating's Buy. Target Price $85.00	Punk Ziegel & Company	8/7/2006
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Cutting 2H06 Est. By 5%, But Keeping FY07 Unc.	Fox-Pitt Kelton Cochran Caronia Waller	9/5/2006
Lehman Brothers Upgrading To Buy 2 (Buy 2) Schorr	UBS	9/5/2006
Fixed Income Proves (Again) To Be The Safest Port In Any Storm	Bank of America	9/13/2006
Raising '06 & '07 Estimates on Strong 3Q Results.	The Buckingham Research Group	9/13/2006
Record Third Quarter Results Despite Turbulent Environment	CIBC World Markets	9/13/2006
Good 3Q06 Results, See Positive Near Term Momentum	Citi	9/13/2006
First Impressions	Credit Suisse	9/13/2006
Quick Take – Beats Our Est By 4%.	Fox-Pitt Kelton Cochran Caronia Waller	9/13/2006
EPS resilient in a tough period	Merrill Lynch	9/13/2006
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Solid FICC And European Results Drive FQ3 2006	Wells Fargo Securities	9/13/2006
Lehman Brothers-Solid results prompt upgrade in estimates, target price.	HSBC	9/14/2006
Raising 06E 07E after solid 3Q	Merrill Lynch	9/14/2006
Steady Returns Growth Continue (Buy2) Schorr	UBS	9/14/2006
Adding to Focus 1 list	Merrill Lynch	9/18/2006
Highlights from Lunch with Lehman Brothers CAO David Goldfarb.	CIBC World Markets	9/29/2006
Making its Mark in Equities.	Credit Suisse	10/16/2006
Lehman Brothers Still A Growth Story – Meetings with Equities IB Management	UBS	10/16/2006
LEHMAN BROTHERS Int'l Product expansion continues	Merrill Lynch	11/20/2006
Conference Call With CEO Of Europe_Asia	Prudential Equity Group	11/28/2006
LEH 4Q06 Preview Nudging Est. Up 2% to $1.76.	Fox-Pitt Kelton Cochran Caronia Waller	12/1/2006
Tweaking Estimates Ahead of Quarter But Raising 2007 Outlook	CIBC World Markets	12/4/2006
F4Q06 Solid Results, But Lacks the Leverage Seen at Peers	JPMorgan	12/14/2006
Solid Qtr Closes Out Record Yr, Though Weaker Than Peers Reit Neutral	Bank of America	12/14/2006
LEH Exceeds Expectations, Powered By Highest Quarterly Revenues Ever	CIBC World Markets	12/14/2006
LEH Strong 4Q06 Results Positive 2007 Outlook	Citi	12/14/2006
4Q06 Quick Take Between Our Est. and Consen.	Fox-Pitt Kelton Cochran Caronia Waller	12/14/2006
First Read Lehman Brothers Straight Up Solid Quarter (Buy 2) Schorr.	UBS	12/14/2006
LEH Raising FY07 And Introducing FY08 EPS Estimates.	Wells Fargo Securities	12/14/2006
4Q06 Investment Spend in '06 Means Payback in '07; Raising EPS.	The Buckingham Research Group	12/15/2006
LEHMAN BROTHERS Solid 4Q06 maintain 07E	Merrill Lynch	12/15/2006
Lehman Brothers Solid Across the Board (Buy 2) Schorr.	UBS	12/15/2006
Lines of Credit Lehman Brothers - 4Q06 Review.	UBS	12/18/2006
LEH: Mgmt Meetings Focus on Mortgage and Equities	Fox-Pitt Kelton Cochran Caronia Waller	1/11/2007
Business is Great	Punk Ziegel & Company	1/12/2007
Huge Buyback... Same as Last Year	Credit Suisse	2/1/2007
Credit Suisse Fin'l Services Forum Highlights	Credit Suisse	2/7/2007
Business Continues to be Great	Punk Ziegel & Company	2/14/2007
2006 10-K Tidbits; Constructive Outlook On Solid Fee Backlogs; Risk Appetite Continues To Rise; Europe Tracking Better Than U.S.	Bank Of America	2/22/2007
LEH: Raising 1Q07 Est. to $2.06	Fox-Pitt Kelton Cochran Caronia Waller	3/1/2007
Focus on renewing mkt share gains, growing globally	Merrill Lynch	3/13/2007
As Battle of Sub-prime Rages On, We Continue to See More Hype than Reality; Tweaking FY'07 EPS and Maintain Neutral	Bank of America	3/14/2007
Solid Qtr But Not Good Enough To Soothe Sub-Prime Nerves	Bank of America	3/14/2007
Research Note for March 14, 2007	The Buckingham Research Group	3/14/2007
1Q07 Results: Meets the Street With Record Results, Mgt. Has Upbeat Outlook	CIBC World Markets	3/14/2007
LEH: Subprime Exposure Manageable, But Still A Near-Term Headwind	Citi	3/14/2007
First Impressions	Credit Suisse	3/14/2007

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LEH: 1Q07 Quick Take: Strong, But “Just In Line” Quarter	Fox-Pitt Kelton Cochran Caronia Waller	3/14/2007
LEH: Solid 1Q07, But Mtg and Int'l Expansion Costs Remain Our Concern	JPMorgan	3/14/2007
Makes consensus; IB sluggish, no sub-prime issues evident	Merrill Lynch	3/14/2007
LEH: 1Q07 EPS	Prudential Equity Group	3/14/2007
Offshore Business Becomes Very Important	Punk Ziegel & Company	3/14/2007
Consistent Growth, But Tough Comps	UBS	3/14/2007
LEH: Upgrading To Outperform, As Risk/Reward Profile Improves	Wachovia	3/14/2007
LEH | Q1 2007 - Goldman is a Tough Act to Follow	Bernstein	3/15/2007
Limited sub-prime fallout, IB sluggish; maintaining estimates	Merrill Lynch	3/15/2007
Growth Story Continues Despite Headwinds	UBS	3/15/2007
LEH: DROPPING COVERAGE	Prudential Equity Group	3/20/2007
Highlights from LEH Management Meeting in London	CIBC World Markets	3/28/2007
Initiating coverage with a Buy rating	Deutsche Bank	4/11/2007
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Valuations and Other Issues	Punk Ziegel & Company	4/13/2007
The View from the Top	Credit Suisse	4/18/2007
The View from the Top (full report)	Credit Suisse	5/1/2007
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LEH: Caught Up With CFO -- Business Prospects Remain Solid	Wachovia	5/2/2007
What do Lehman Investors See that Dow Investors Do Not	Punk Ziegel & Company	5/16/2007
LEH: 2Q07 Preview—Cutting FY07 By 3%	Fox-Pitt Kelton Cochran Caronia Waller	5/18/2007
Growing Right Through Mortgage Market Woes; Raising Estimates	Bank of America	6/12/2007
Lehman Sets High Bar with 18% Upside Surprise Despite Tough Mortgage Market	Bank of America	6/12/2007
Research Note for June 12, 2007	The Buckingham Research Group	6/12/2007
Strength In Equities Shows That Investments Are Paying Off	Citi	6/12/2007
First Impressions	Credit Suisse	6/12/2007
LEH: 2Q07- Big Upside Surprise, Beats Our Est. By 10%	Fox-Pitt Kelton Cochran Caronia Waller	6/12/2007
Upside surprise demonstrates the power of global growth in capital markets	HSBC	6/12/2007
LEH 2Q EPS of $2.21 well ahead of ML est. of $2.00 and consensus of $1.87. Int’l revs. reached 48% of total; clearly the diversification helped	Merrill Lynch	6/12/2007
Lehman A Full Line Company	Punk Ziegel & Company	6/12/2007
Strong & More Balanced Than Expected	UBS	6/12/2007
LEH:Reported Record Q2 2007 Results; Reiterate Outperform Rating	Wachovia	6/12/2007
Record 2Q Results Despite U.S. Mortgage Slowdown, Sets High Bar For Peers	CIBC World Markets	6/13/2007
Strong Results--Diversified Revenue Base Muted the Weakness in Fixed Income	JPMorgan	6/13/2007
Int’l investment paying dividends; raising ests.	Merrill Lynch	6/13/2007
Diversification/Expansion Story Kicks Into a Higher Gear	UBS	6/13/2007
Divergence	HSBC	6/14/2007
Business Plan	Ladenburg Thalmann	6/27/2007
Lehman Brothers Holdings, Inc. LEHMQ	Morningstar	6/27/2007
LEH: 10-Q Bits - Has Christmas Come In July? LEH Is Inexpensive	Wachovia	7/10/2007
LEH's Head of Fixed Income Strategy, Jack Malvey, Puts It All Into Perspective	CIBC World Markets	8/6/2007
Challenging Environment	Punk Ziegel & Company	8/7/2007
LEH: Lowering Ests. By About 10%, But No Doomsday	Fox-Pitt Kelton Cochran Caronia Waller	8/17/2007
At a glance – Lehman Brothers - The Fixed Income Specialist getting out of Subprime	nabCapital	8/23/2007
Making Sense	Punk Ziegel & Company	8/23/2007
Trimming Our 3Q Estimate to Mid-teens ROE; Expect Positive 4Q Outlook	CIBC World Markets	8/28/2007
Q3 Earnings Options Pair Trade – LEH & GS	Citi	9/5/2007
Fine Tuning Estimates	Credit Suisse	9/6/2007
Managing Through the Storm	UBS	9/11/2007
Fixed Income Weakness No Surprise, But Broad-Based Strength Stands Out	Bank of America	9/18/2007
What Doesn’t Kill You, Makes You Stronger? LEH Graduates Q3 With Aplomb; However, Lowering Est. On Near-Term Debt Sluggishness	Bank Of America	9/18/2007
LEH Beats 3Q Estimates and States "Worst Is Over"	CIBC World Markets	9/18/2007
Relatively Strong Quarter Despite Tough Credit Environment	Citi	9/18/2007
First Impressions	Credit Suisse	9/18/2007
3Q07 EPS a Touch Above but w/Questions - Quick Take	Deutsche Bank	9/18/2007
LEH: 3Q07 Quick Take: Strong Result, As We Expected	Fox-Pitt Kelton Cochran Caronia Waller	9/18/2007
LEH: 3Q07 Results Strong, Despite Aggressive Marking	Fox-Pitt Kelton Cochran Caronia Waller	9/18/2007
Diversity pays off	JPMorgan	9/18/2007
Revenues solid, tax and cost mgmt drive “beat”	Merrill Lynch	9/18/2007

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Not Bad All Things Considered	UBS	9/18/2007
Research Note for September 19, 2007	The Buckingham Research Group	9/19/2007
3Q earnings find a reassuring balance	HSBC	9/19/2007
Unclear Credit Environment Limits the Upside	JPMorgan	9/19/2007
Risk mgmt. saves the quarter	Merrill Lynch	9/19/2007
At a glance – Lehman Brothers – Valuation Reductions deliver A better than expected 3Q07 and "The worst of this credit correction is behind us"	nabCapital	9/19/2007
Bad Quarter; Changed Environment	Punk Ziegel & Company	9/19/2007
Not a Bad Trough (Assuming it is One)	UBS	9/19/2007
LEH: Provides A Sigh Of Relief - Delivers An ROE Of 17.1%	Wachovia	9/19/2007
Upgrading to Outperform	Credit Suisse	10/8/2007
10-Q Tidbits; Balance Sheet Growth Continues While Risk Levels at Top of Peer Group	Bank of America	10/12/2007
Nudge 4Q07/2007 Estimate Higher for Better Fixed Income Mark	Deutsche Bank	10/24/2007
Competitive Benefits	Punk Ziegel & Company	10/31/2007
Fine Tuning Estimates	Credit Suisse	11/2/2007
How Much Income from Fixed Income?	Credit Suisse	11/2/2007
Effectively Controlling What They Can	UBS	11/13/2007
Management upbeat	Merrill Lynch	11/15/2007
Competitive Benefits: Rating and Price Target Upgraded	Punk Ziegel & Company	11/15/2007
Lowering Fourth Quarter Estimate Due to Recent Credit Market Disruption	CIBC World Markets	11/28/2007
Revising Estimates	Credit Suisse	11/29/2007
Why Would They Do It?	Punk Ziegel & Company	11/29/2007
Lowering Estimates and Target	Deutsche Bank	12/3/2007
An Early Look into Lehman's 2008 Outlook	CIBC World Markets	12/12/2007
4Q07 Results Highlight Difficult Credit Market Conditions	CIBC World Markets	12/13/2007
Reality of 2008 Headwinds Overshadows Excellent Risk Mgmt	Citi	12/13/2007
First Impressions	Credit Suisse	12/13/2007
4Q07 EPS Inline; Flat w/3Q07	Deutsche Bank	12/13/2007
$1.54 4Q EPS enhanced by gains	Merrill Lynch	12/13/2007
A Hedge Above the Rest?	UBS	12/13/2007
Great Relative Performance, But 1-Timers Help Prop Up The Quarter	UBS	12/13/2007
LEH: Survive......And Thrive Later, Solid All Things Considered	Wachovia	12/13/2007
Solid Results in Tough Environment; Undervalued Franchise	The Buckingham Research Group	12/14/2007
Equities and one time gains offset weak fixed income revenue	JPMorgan	12/14/2007
Lehman Delivers, but Earnings Quality Remains Key Concern	JPMorgan	12/14/2007
AT A GLANCE: Lehman Brothers stunning stability as the hedges work for an Unchanged 4Q	nabCapital	12/14/2007
Competitive Benefits; Reducing Price Target	Punk Ziegel & Company	12/14/2007
Solid Risk Mgmt, But Tough Environment	UBS	12/14/2007
Lehman Brothers Holdings, Inc. LEHMQ	Morningstar	12/17/2007
Lehman Brothers: A relative winner…in subdued credit markets (Neutral, TP lowered from $80.45 to $72)	HSBC	1/3/2008
Lehman Brothers Holding: Meeting with CFO	Deutsche Bank	1/10/2008
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LEH: Meetings w/Mgmt Reinforce Our Relative Confidence	Fox-Pitt Kelton Cochran Caronia Waller	1/15/2008
LEH: Tough Year Ahead-Sowing Seeds for Share Gains	Wachovia	1/15/2008
Take-aways From Meeting with LEH;s New CFO Erin Callan	Oppenheimer	1/28/2008
Raised Dividend and Continues Buyback	Deutsche Bank	1/29/2008
Neutral Risk/Reward Rating	New Constructs	2/2/2008
Morning Espresso - Europe	UBS	2/5/2008
Credit Suisse Fin'l Services Forum Highlights	Credit Suisse	2/6/2008
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Mortgage Refinance Boom	Punk Ziegel & Company	2/8/2008
Mark-Downs Look to Be Worse Than Expected, Lowering Numbers	Bank of America	2/12/2008
Challenging Environment; Reducing 1Q08 Estimate	Credit Suisse	2/12/2008
Lowering 1Q08 EPS on CMBS Weakness in February	The Buckingham Research Group	2/27/2008
US Securities Industry: Money Market Disruptions - Symptoms of Broader Industry Liquidity Issues	Bernstein	2/28/2008
Weaker Markets; Reducing Estimates	Credit Suisse	2/29/2008
Lowering Estimates and Target	Deutsche Bank	2/29/2008
CORRECTION: Finality of F1Q08 Causes Us to Take Another Whack at Brkr Est	Oppenheimer	3/3/2008
Expecting Another Qtr of Bad New; Lowering Ests - Corrected Note supersedes any previous versions	JPMorgan	3/10/2008
Revising FY08/09 Ests: Tweaking Non-Comp Expense and Rev Assumptions	Oppenheimer	3/10/2008
Lowering Estimates and Target	Deutsche Bank	3/11/2008
Lehman Brothers Holdings, Inc.	Morningstar	3/13/2008

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It is not Bear	Deutsche Bank	3/17/2008
First Impressions	Credit Suisse	3/18/2008
1Q08 Earnings	Deutsche Bank	3/18/2008
LEH 1Q08 Quick Take: Meets Expectations, Focus on Liquidity	Fox-Pitt Kelton Cochran Caronia Waller	3/18/2008
LEH Dispels Negative Speculation with 1Q08 Earnings	Oppenheimer	3/18/2008
Attacking the Federal Reserve	Punk Ziegel & Company	3/18/2008
Lehman is Fine, But Outlook is Challenging	UBS	3/18/2008
LEH: 1Q08 Not Bad, But the Focus Is On the Here-and-Now	Fox-Pitt Kelton Cochran Caronia Waller	3/19/2008
Goldman Sachs and Lehman Brothers: Weathering the Storm	JPMorgan	3/19/2008
Lehman Brothers Holdings, Inc.	Morningstar	3/19/2008
Guess What? It's a Real Company	Punk Ziegel & Company	3/19/2008
1Q08: Underlying Earnings Power Remains Intact	The Buckingham Research Group	3/19/2008
A Sign of Relief	UBS	3/19/2008
Downgrade to Perform Due to Valuation Cap in a Protracted Broker Bear Market	Oppenheimer	3/23/2008
LEH: Lowering Ests. As Tough Conditions Subsist	Fox-Pitt Kelton Cochran Caronia Waller	3/25/2008
Upgrading To Buy; Reality Will Trump Fear	Citi	3/28/2008
$1.35B Capital Raise to Help Sentiment but to Dilute Shareholders	JPMorgan	3/31/2008
Lehman Raises $3 Billion of Capital: First in Long Line of Recaps For 2008	Oppenheimer	3/31/2008
Reiterate Buy, Efficient Raise-Up Eliminates Perception Issues	Citi	4/1/2008
Final Deal Terms	Deutsche Bank	4/1/2008
Drive for More Capital	Punk Ziegel & Company	4/1/2008
Raising Capital to Add Confidence, but There is Dilution	The Buckingham Research Group	4/1/2008
Convert Issue Speaks to Multiple Issues	UBS	4/1/2008
LEH: $4bn Capital Raise Eases Liquidity Fears	Wachovia	4/1/2008
Revising Our Estimates Due to Share Dilution from $4 Billion Capital Raise	Oppenheimer	4/2/2008
Reducing Estimates to Reflect Capital Raising	Credit Suisse	4/3/2008
Meeting with the CFO	Deutsche Bank	4/9/2008
LEH: Takeaways From Management Meeting	Wachovia	4/9/2008
Meeting With CFO: Short-Term P/L Impact from “De-Risking”, But Positive for Valuation & LT Fundamentals	The Buckingham Research Group	4/14/2008
Take Aways from Meeting with LEH's CFO Erin Callan and IMD Head George Walker	Oppenheimer	4/22/2008
Tough Environment—Franchise Positioned To Come Out Stronger	Citi	4/30/2008
How Much Income from Fixed Income?	Credit Suisse	4/30/2008
Equities--A Growth Business for Lehman	Credit Suisse	5/1/2008
Short term trading opportunity downside	Merrill Lynch	5/2/2008
Meeting w/the CEO	Deutsche Bank	5/5/2008
Cleansing Process in Full Swing	UBS	5/8/2008
Attractive Risk/Reward Rating	New Constructs	5/17/2008
Reducing Estimates	Credit Suisse	5/21/2008
Earnings Challenge	Ladenburg Thalmann	5/21/2008
Hedge reversal drage on 2Q, cutting ests	Merrill Lynch	5/21/2008
2Q08 Preview: Reversals of Prior Hedging Gains=Red Ink	Fox-Pitt Kelton Cochran Caronia Waller	5/22/2008
US Technical Research	Fox-Pitt Kelton Cochran Caronia Waller	5/22/2008
Ratings Cut	Ladenburg Thalmann	5/22/2008
Lehman Brothers Holdings Inc.: Cutting 2Q08 EPS estimate to a loss to reflect market conditions	Oppenheimer	6/2/2008
Lehman Brothers Holdings Inc.: Another Capital Raise?	Citi	6/3/2008
LEH: No Current Tangible Need to Raise Capital	Fox-Pitt Kelton Cochran Caronia Waller	6/3/2008
Lehman under Review	Morningstar	6/3/2008
Lehman Brothers: Follow-Up Thoughts on Recent Bearish Arguments	Fox-Pitt Kelton Cochran Caronia Waller	6/4/2008
Lehman Brothers Holdings Inc: Cutting ests, but raising to Buy on valuation	Merrill Lynch	6/4/2008
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Lehman Brothers: Greater Than Expected Loss, But More Than in the Stock	The Buckingham Research Group	6/9/2008
Lehman Brothers Holdings Inc.: Another $6b Capital Raise	Citi	6/9/2008
Company Alert: Lehman Brothers Holding - 2Q08 Loss - First Take	Deutsche Bank	6/9/2008
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LEH: Raise and Write-Downs, But Not a “Capitulation”	Fox-Pitt Kelton Cochran Caronia Waller	6/9/2008
Lehman Brothers: $4.9B in Write-downs; Reality Bites	JPMorgan	6/9/2008
Dilution Will Hurt Lehman's Fair Value	Morningstar	6/9/2008

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Lehman Raises Capital, Warns on 2Q	Morningstar	6/9/2008
First Read: Lehman Brothers: Pre-Announcement & $6 Bn Capital Raise	UBS	6/9/2008
LEH: Recalibrating Expectations	Credit Suisse	6/10/2008
Lehman Brothers Holdings Inc.: Cutting ests after massive loss, but maintain Buy	Merrill Lynch	6/10/2008
LEH Pre-announces EPS Loss of $5.14 and Capital Raise of $6B	Oppenheimer	6/10/2008
LEHMAN BROTHERS: anticipating tighter capital requirements?	Raymond James	6/10/2008
Lehman Brothers: Unanswered Questions Continue To Weigh	UBS	6/10/2008
Lehman on the subprime "red list"	UniCredit	6/10/2008
LEH: Pre-Announces, Too Many Inconsistencies--Downgrading Rating	Wachovia	6/10/2008
Lehman Brothers: One day at a time	HSBC	6/11/2008
Lehman Brothers Holdings Inc: Downgrading to Neutral, PO cut to $28 from $36	Merrill Lynch	6/11/2008
Investment Banking Leverage	Morningstar	6/11/2008
Lehman Brothers Holdings, Inc. LEHMQ - Analyst Report	Morningstar	6/11/2008
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LEH: Management Changes Not Completely Surprising	Wachovia	6/12/2008
LEH: Sum of the Parts Compelling	Fox-Pitt Kelton Cochran Caronia Waller	6/13/2008
LEH: Attractive Risk/Reward Rating	New Constructs	6/14/2008
LEH: 2Q08 EPS in line w/Pre-Release; Exposures Clearer	Deutsche Bank	6/16/2008
LEH Earnings In Line with Preannouncement, Risks Persist	JPMorgan	6/16/2008
LEH: Hosts Earnings Call--Long-Term Story Still Intact	Wachovia	6/16/2008
LEH: 2Q08: Risks Are Coming Down; Reaffirm S. Buy	The Buckingham Research Group	6/17/2008
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LEH: Believable Book Value	Ladenburg Thalmann	6/17/2008
LEH: Cutting ests again on lower leverage	Merrill Lynch	6/17/2008
LEH 2Q08 Net Results Match Pre-announcement	Oppenheimer	6/17/2008
Lehman Brothers: A Few Steps Toward Stability	UBS	6/17/2008
Lehman Brothers: More Senior Management Shuffling	UBS	6/24/2008
LEH: Business Plan	Ladenburg Thalmann	6/27/2008
Lehman Brothers: Bruised, Not Broken — and Poised for Profitability	Morgan Stanley	6/30/2008
LEH: Wolves Were Created to Slaughter Lambs	Ladenburg Thalmann	7/1/2008
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Merrill Lynch & Co., Inc. Form 10-Q for the Quarterly Period Ended September 24, 2004		11/1/2004
Merrill Lynch & Co., Inc. Form 10-K for the Fiscal Year Ended December 31, 2004		3/15/2005
Merrill Lynch & Co., Inc. Form 10-Q for the Quarterly Period Ended April 1, 2005		5/6/2005
Merrill Lynch & Co., Inc. Form 10-Q for the Quarterly Period Ended July 1, 2005		8/5/2005
Merrill Lynch & Co., Inc. Form 10-Q for the Quarterly Period Ended September 30, 2005		11/7/2005
Merrill Lynch & Co., Inc. Form 10-K for the Fiscal Year Ended December 30, 2005		2/28/2006
Merrill Lynch & Co., Inc. Form 10-Q for the Quarterly Period Ended March 31, 2006		5/5/2006
Merrill Lynch & Co., Inc. Form 10-Q for the Quarterly Period Ended June 30, 2006		8/4/2006
Merrill Lynch & Co., Inc. Form 10-Q for the Quarterly Period Ended September 29, 2006		11/3/2006
Merrill Lynch & Co., Inc. Form 10-K for the Fiscal Year Ended December 29, 2006		2/26/2007
Merrill Lynch & Co., Inc. Form 10-Q for the Quarterly Period Ended March 30, 2007		5/7/2007
Merrill Lynch & Co., Inc. Form 10-Q for the Quarterly Period Ended June 29, 2007		8/3/2007
Merrill Lynch & Co., Inc. Form 10-Q for the Quarterly Period Ended September 28, 2007		11/7/2007
Merrill Lynch & Co., Inc. Form 10-K for the Fiscal Year Ended December 28, 2007		2/25/2008
Merrill Lynch & Co., Inc. Form 10-Q for the Quarterly Period Ended March 28, 2008		5/6/2008
Merrill Lynch & Co., Inc. Form 10-Q for the Quarterly Period Ended June 27, 2008		8/5/2008

Appendix B
Documents Considered

Document Title	Bates / Source	Date
Merrill Lynch & Co., Inc. Form 10-Q for the Quarterly Period Ended September 26, 2008		11/5/2008
Morgan Stanley Form 10-Q for the Quarterly Period Ended February 29, 2004		4/8/2004
Morgan Stanley Form 10-Q for the Quarterly Period Ended May 31, 2004		7/13/2004
Morgan Stanley Form 10-Q for the Quarterly Period Ended August 31, 2004		10/15/2004
Morgan Stanley Form 10-Q/A for the Quarterly Period Ended May 31, 2004		10/15/2004
Morgan Stanley Form 10-Q/A for the Quarterly Period Ended February 29, 2004		10/15/2004
Morgan Stanley Form 10-K/A for the Fiscal Year Ended November 30, 2004		2/11/2005
Morgan Stanley Form 10-Q for the Quarterly Period Ended February 28, 2005		4/6/2005
Morgan Stanley Form 10-Q/A for the Quarterly Period Ended May 31, 2005		7/8/2005
Morgan Stanley Form 10-Q for the Quarterly Period Ended August 31, 2005		10/7/2005
Morgan Stanley Form 10-K/A for the Fiscal Year Ended November 30, 2005		2/13/2006
Morgan Stanley Form 10-Q for the Quarterly Period Ended February 28, 2006		4/7/2006
Morgan Stanley Form 10-Q/A for the Quarterly Period Ended May 31, 2006		7/7/2006
Morgan Stanley Form 10-Q for the Quarterly Period Ended August 31, 2006		10/6/2006
Morgan Stanley Form 10-K/A for the Fiscal Year Ended November 30, 2006		2/13/2007
Morgan Stanley Form 10-Q for the Quarterly Period Ended February 28, 2007		4/6/2007
Morgan Stanley Form 10-Q/A for the Quarterly Period Ended May 31, 2007		7/10/2007
Morgan Stanley Form 10-Q for the Quarterly Period Ended August 31, 2007		10/10/2007
Morgan Stanley Form 10-K/A for the Fiscal Year Ended November 30, 2007		1/29/2008
Morgan Stanley Form 10-Q for the Quarterly Period Ended February 29, 2008		4/9/2008
Morgan Stanley Form 10-Q/A for the Quarterly Period Ended May 31, 2008		7/9/2008
Morgan Stanley Form 10-Q for the Quarterly Period Ended August 31, 2008		10/9/2008
Lehman Brothers Holdings Inc. Form 10-Q for the Quarterly Period Ended February 29, 2004		4/14/2004
Lehman Brothers Holdings Inc. Form 10-Q for the Quarterly Period Ended May 31, 2004		7/14/2004
Lehman Brothers Holdings Inc. Form 10-Q for the Quarterly Period Ended August 31, 2004		10/15/2004
Lehman Brothers Holdings Inc. Form 10-K for the Fiscal Year Ended November 30, 2004		2/14/2005
Lehman Brothers Holdings Inc. Form 10-K/A for the Fiscal Year Ended November 30, 2004		2/16/2005
Lehman Brothers Holdings Inc. Form 10-Q for the Quarterly Period Ended February 28, 2005		4/11/2005
Lehman Brothers Holdings Inc. Form 10-Q for the Quarterly Period Ended May 31, 2005		7/11/2005
Lehman Brothers Holdings Inc. Form 10-Q for the Quarterly Period Ended August 31, 2005		10/11/2005
Lehman Brothers Holdings Inc. Form 10-K for the Fiscal Year Ended November 30, 2005		2/13/2006
Lehman Brothers Holdings Inc. Form 10-Q for the Quarterly Period Ended February 28, 2006		4/10/2006
Lehman Brothers Holdings Inc. Form 10-Q for the Quarterly Period Ended May 31, 2006		7/10/2006
Lehman Brothers Holdings Inc. Form 10-Q for the Quarterly Period Ended August 31, 2006		10/10/2006
Lehman Brothers Holdings Inc. Form 10-K for the Fiscal Year Ended November 30, 2006		2/13/2007
Lehman Brothers Holdings Inc. Form 10-Q for the Quarterly Period Ended February 28, 2007		4/9/2007
Lehman Brothers Holdings Inc. Form 10-Q for the Quarterly Period Ended May 31, 2007		7/10/2007
Lehman Brothers Holdings Inc. Form 10-Q for the Quarterly Period Ended August 31, 2007		10/10/2007
Lehman Brothers Holdings Inc. Form 10-K for the Fiscal Year Ended November 30, 2007		1/29/2008
Lehman Brothers Holdings Inc. Form 10-Q for the Quarterly Period Ended February 29, 2008		4/9/2008
Lehman Brothers Holdings Inc. Form 10-Q for the Quarterly Period Ended May 31, 2008		7/10/2008
Lehman Brothers Holdings Inc. Schedule 14A		3/5/2008
Earnings Press Releases and Conference Calls		
Lehman Brothers Reports Record Net Revenues, Net Income and Earnings Per Share for Fiscal 2006 (Q4 06 Press Release)		12/14/2006
Q4 2006 Lehman Brothers Holdings Inc. Earnings Conference Call		12/14/2006
Lehman Brothers Reports Record First Quarter Results (Q1 07 Press Release)		3/14/2007
Q1 2007 Lehman Brothers Holdings Inc. Earnings Conference Call - Final		3/14/2007
Lehman Brothers Reports Record Quarterly Results (Q2 07 Press Release)		6/12/2007
Q2 2007 Lehman Brothers Holdings Inc. Earnings Conference Call - Final		6/12/2007
Lehman Brothers Reports Third Quarter Results (Q3 07 Press Release)		9/18/2007
Q3 2007 Lehman Brothers Holdings Inc. Earnings Conference Call - Final		9/18/2007
Lehman Brothers Reports Record Net Revenues, Net Income and Earnings Per Share for Fiscal 2007 (Q4 07 Press Release)		12/13/2007
Q4 2007 Lehman Brothers Holdings Inc. Earnings Conference Call		12/13/2007
Lehman Brothers Reports First Quarter Results (Q1 08 Press Release)		3/18/2008
Q1 2008 Lehman Brothers Holdings Inc. Earnings Conference Call		3/18/2008
Lehman Brothers Reports Second Quarter Results (Q2 08 Press Release)		6/16/2008
Q2 2008 Lehman Brothers Holdings Inc. Earnings Conference Call - Final		6/16/2008
Lehman Brothers Announces Preliminary Third Quarter Results and Strategic Restructuring (Q3 08 Press Release)		9/10/2008
Q3 2008 Preliminary Lehman Brothers Holdings Inc. Earnings Conference Call - Final		9/10/2008
General Data Sources		
CRSP		
FINRA TRACE		

Appendix B
Documents Considered

Document Title	Bates / Source	Date
Factiva		
Alacra		
Capital IQ		
Thomson Research		
Bloomberg		
Inside Mortgage Finance: Mortgage Origination Data		
Securities Industry and Financial Market Association: MBS Data http://www.sifma.org/research/statistics.aspx accessed multiple times		
Federal Reserve: Commercial Paper Data http://www.federalreserve.gov/datadownload/Choose.aspx?rel=CP accessed multiple times		
Federal Reserve: Delinquency Rate		
Moody's/RCA Commercial Property Index		
"The Mortgage Graveyard: Failed, Closed and Acquired Mortgage-Related Entities," *Mortgage Daily* http://www.mortgagedaily.com/MortgageGraveyard.asp accessed multiple times		
Federal Reserve Bank of New York: CRSP-FRB Link http://www.newyorkfed.org/research/banking_research/datasets.html		
Federal Reserve Bank of Chicago: Bank Holdings Company Data http://www.chicagofed.org/webpages/banking/financial_institution_reports/bhc_data.cfm		

Note: Even if not included in this list, I also relied upon any other documents cited in my report, appendices, or exhibits.

Appendix C
Additional Information on Empirical Analysis[1]

I. Dependent Variable

To determine whether a BHC or FHD was publicly traded for a particular month and if so, its stock price returns, I used the New York Federal Reserve's CRSP-FRB Link database, which links the firm identifiers used by the Federal Reserve with the identifiers used by CRSP.[2] Then, consistent with the methodology described below, the monthly stock price return was used as a dependent variable if sufficient information was available to build the lagged independent variables for that month.

II. Independent Variables

Below are additional details on the construction of the independent variables used in the model, including the specific fields used from the June 2008 form FR Y-9C:[3]

- **Earnings per share** is defined as the ratio of income (loss) before extraordinary items and other adjustments (Schedule HI) to the total number of bank holding company common shares outstanding (Schedule HC-M).
- **Loans to total assets** is defined as the ratio of loans and leases, net of unearned income to total assets (Schedule HC).
- **Loan-loss reserves to total loans** is defined as the ratio of allowance for loan and lease losses to loans and leases, net of unearned income (Schedule HC).[4]
- **Non-interest income to net income** is defined as the ratio of total non-interest income to net income (Schedule HI).

[1] Empirical analysis is based on Michael J. Cooper, William E. Jackson III, and Gary A. Patterson, "Evidence of predictability in the cross-section of bank stock returns," *Journal of Banking and Finance* 27 (2003), pp. 817–850 ("Cooper et al.").

[2] "Banking Research Datasets," Federal Reserve Bank of New York. 2013, accessed October 16, 2013, http://www.newyorkfed.org/research/banking_research/datasets.html.

[3] The forms filed in June 2008 are the last ones before Lehman's bankruptcy. The fields and columns used in the June 2008 form provide sufficient elements to identify the corresponding information in the forms filed in previous quarters.

[4] Loans held for sale are not included in total loans because Allowances for Loan and Lease Losses relates to estimated credit losses associated with loans and leases, which the financial institution has the intent and ability to hold for the foreseeable future or until maturity or payoff. *See* Instructions for Preparation of Form FR Y-9C, June 2008.

- **Unused loan commitments to total loans** is defined as the ratio of the sum of all the items reported under Unused commitments (Schedule HC-L) to loans and leases, net of unearned income (Schedule HC).
- **Total standby letter of credit to total loans** is defined as the ratio of the sum of financial and performance standby letters of credit and foreign office guarantees (Schedule HC-L) to loans and leases, net of unearned income (Schedule HC).
- **Net leverage** was calculated for each financial institution according to Lehman's methodology of the ratio of net assets to tangible equity capital.[5]
  - **Net assets**: total assets (Schedule HC) minus (1) cash and securities segregated and on deposit for regulatory and other purposes (non-interest-bearing balances and currency and coin in Schedule HC);[6] (2) collateralized lending agreements (securities purchased under agreement to resell in Schedule HC); and (3) identifiable intangible assets and goodwill (goodwill and other intangible assets in Schedule HC)
  - **Tangible equity capital**: stockholders' equity (total equity capital in Schedule HC) plus junior subordinated debt[7] (subordinated notes payable to unconsolidated trust issuing trust preferred securities, and trust preferred securities issued by consolidated special purpose entities in Schedule HC) and minus identifiable asset and goodwill (goodwill and other intangible assets in Schedule HC)

  For the first decomposition of the net leverage ratio, net assets are decomposed as follows:
  - **Debt backed by U.S. and local governments**: U.S. Treasury securities, U.S. Agency obligations (excluding MBS), and securities issued by states and political

[5] *See, e.g.*, Lehman 2007 10-K, p. 30. Lehman defines the ratio to be Net Assets divided by Tangible Equity Capital. Net Assets is calculated as total assets minus (i) cash and securities segregated and on deposit for regulatory and other purposes, (ii) collateralized lending agreements, and (iii) identifiable intangible assets and goodwill. Tangible Equity Capital is calculated as stockholders' equity plus junior subordinated notes minus identifiable intangible assets and goodwill. Junior subordinated notes and preferred stock are capped at 25% of Tangible Equity Capital. Cooper et al. used book value of equity to total assets as a measure of leverage. I substituted this measure of leverage with a calculation of the net leverage ratio for each financial institution included in the data set.

[6] Interest bearing balances were not removed based on a comparison between form FR Y-9C and SEC filings for Morgan Stanley, which reveals that interest bearing balances are unlikely to be included in cash and securities segregated and on deposit for regulatory and other purposes. Morgan Stanley reports a specific item for these interest bearing balances.

[7] As defined by Lehman, junior subordinated notes and preferred securities are capped at 25% of total Tangible Equity Capital.

subdivisions in the U.S. (Schedule HC-B (columns A and D) and Schedule HC-D[8])

- **Not related to debt backed by U.S. and local governments**: the remainder of net assets

For the second decomposition of the net leverage ratio, net assets are decomposed as follows:

- **Related to Repo 105 assets**: Debt Backed by U.S. and local governments (above) plus:
  - MBS issued or guaranteed by U.S. Agencies or government-sponsored agencies, corresponding to the following fields from the form FR Y-9C:
    - Schedule HC-B
      - pass-through securities (1) guaranteed by GNMA, (2) issued by FNMA and FHLMC; and
      - other mortgage-backed securities (1) issued or guaranteed by FNMA, FHLMC, or GNMA, (2) collateralized by MBS issued or guaranteed by FNMA, FHLMC, or GNMA
    - Schedule HC-D
      - pass-through securities issued or guaranteed by FNMA, FHLMC, or GNMA; and
      - other mortgage-backed securities issued or guaranteed by FNMA, FHLMC, or GNMA
  - Other debt securities (Schedule HC-B and HC-D)
  - Investments in mutual funds and other equity securities with readily determinable fair values (Schedule HC-B)
- **Not related to Repo 105 assets**: the remainder of net assets

[8] Prior to 2008, only trading assets in domestic offices were reported for these items. It was not until Q1 2008 that both the consolidated and domestic amounts were specifically reported. See forms FR Y-9C as of Q4 2007 and Q1 2008, accessed at http://www.federalreserve.gov/apps/reportforms/reporthistory.aspx?sOoYJ+5BzDal8cbqnRxZRg==. Therefore, for consistency, in Schedule HC-D, I only considered assets held in domestic offices (column B for the 2008 forms).

- **Book-to-market** is defined as the ratio of total shareholder's equity minus the book value of preferred stock (Schedule HC) to the CRSP market value of equity as of the date indicated on form FR Y-9C.
- **Market capitalization** is defined as the market value of equity per CRSP at the end of the month preceding the monthly stock return. For example, for the cross-sectional regression performed in May 2008, the market capitalization variable is the market value of equity as of the last day of April 2008.

Consistent with Cooper at al., I removed non-positive values of accounting items from the data set prior to the construction of the different variables.[9] Accordingly, the financial institution was removed from the data set for this specific quarter if at least one independent variable had a missing observation for this quarter.

I did not include the ratio of interest rate swaps to total assets as an independent variable because it resulted in non-positive values for this variable for many financial institutions, thereby drastically reducing the data set.[10]

After adjusting the data set for non-positive values of accounting items, I calculated quarterly percentage changes relative to the mean of the last four quarters for all accounting items except book-to-market and market capitalization.[11,12]

All independent variables were then expressed in terms of their percentile rank for any given month, to account for possible non-linear relationships and outliers. These percentile ranks represent the actual independent variables of my cross-sectional regression analysis.

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[9] Cooper et al., p. 827.

[10] The data set is reduced from an average of 309 financial institutions per month to 105. For this calculation, the number of financial institutions for any particular month excludes financial institutions with non-positive or missing observations for any other independent variables for that month as well as financial institutions without a stock price return for that month.

[11] If the last four quarters contain missing data, then the average calculation is based on the data available.

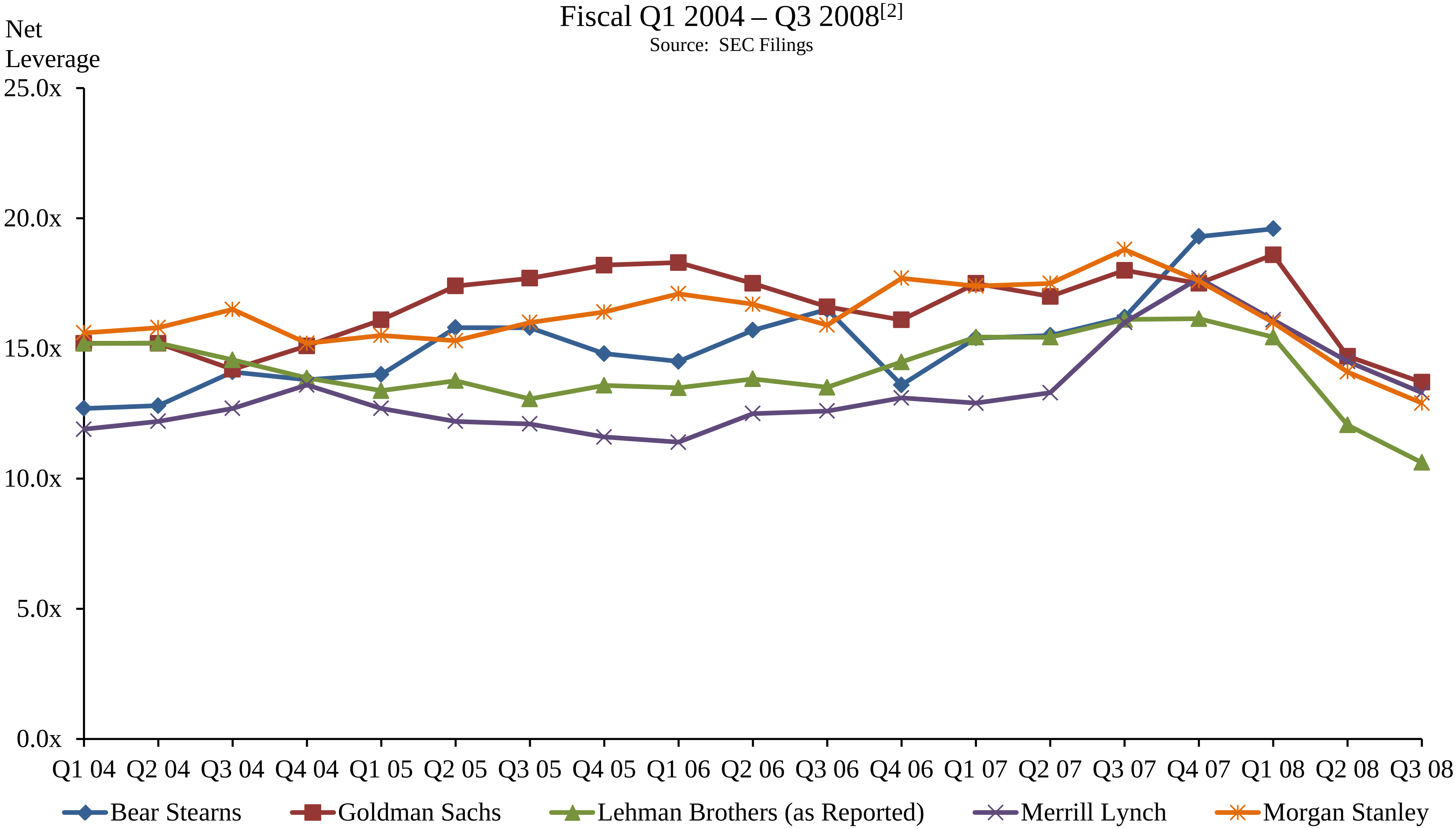
[12] Cooper et al., pp. 832–834.

III. Model

I performed monthly cross-sectional regressions in which the monthly stock price returns were regressed on the lagged variables defined above. To pair up monthly returns and accounting variables (other than market capitalization, the pairing for which is described above), I followed the Cooper et al. methodology.[13] I associated the accounting information released as of a certain month (the filing month for form FR Y-9C) with the monthly returns that occurred three, four, and five months after the filing month. For example, accounting information released as of June 2007 is paired with monthly returns for September, October, and November 2007. The time series average of the cross-section regression coefficients was then used to assess statistical significance.[14]

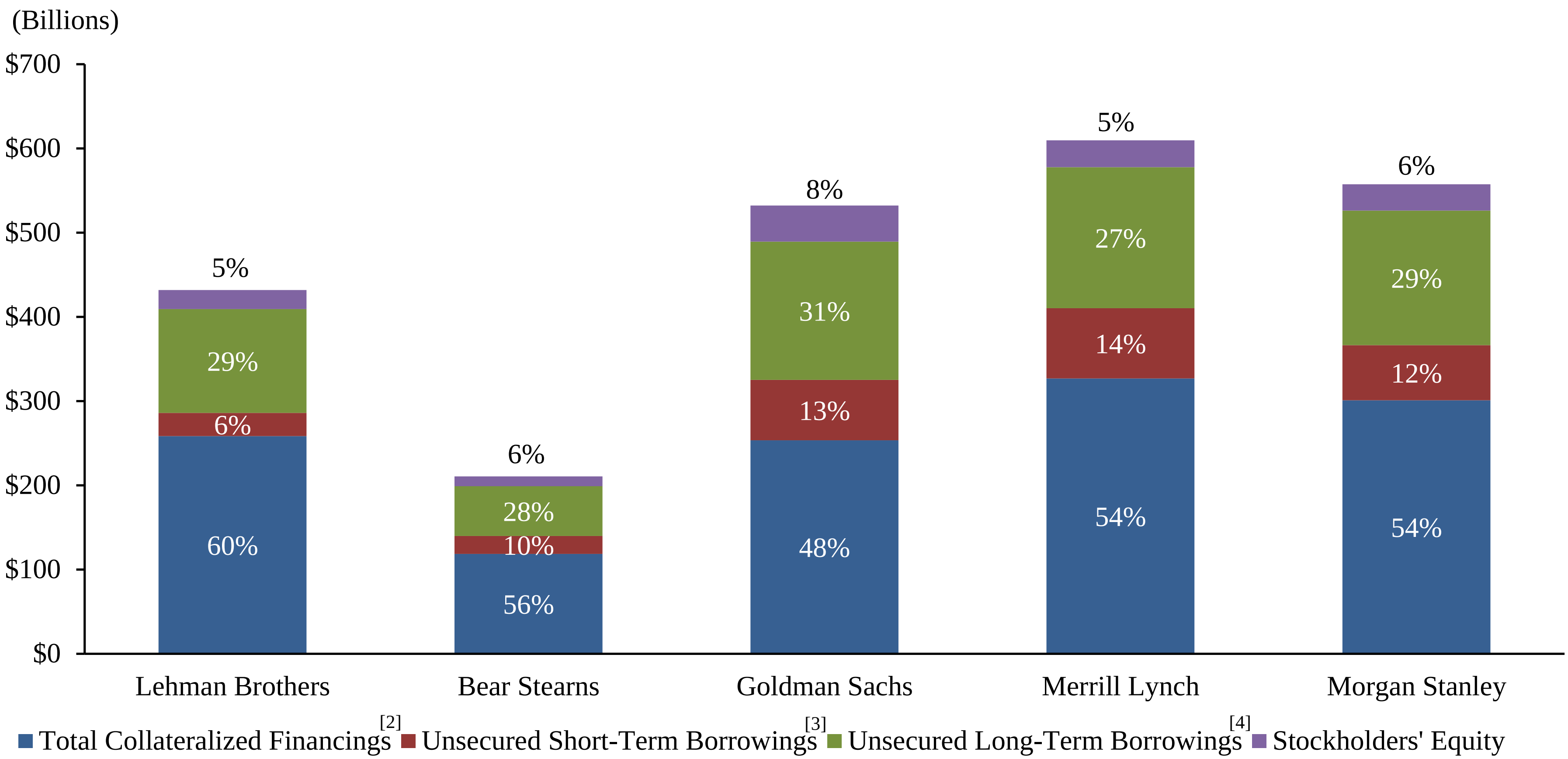
[13] Cooper et al., p. 826.
[14] Cooper et al., pp. 832–834.

Exhibit 1
Lehman Brothers and Peers
Net Leverage Ratio[1]
Fiscal Q1 2004 – Q3 2008[2]
Source: SEC Filings



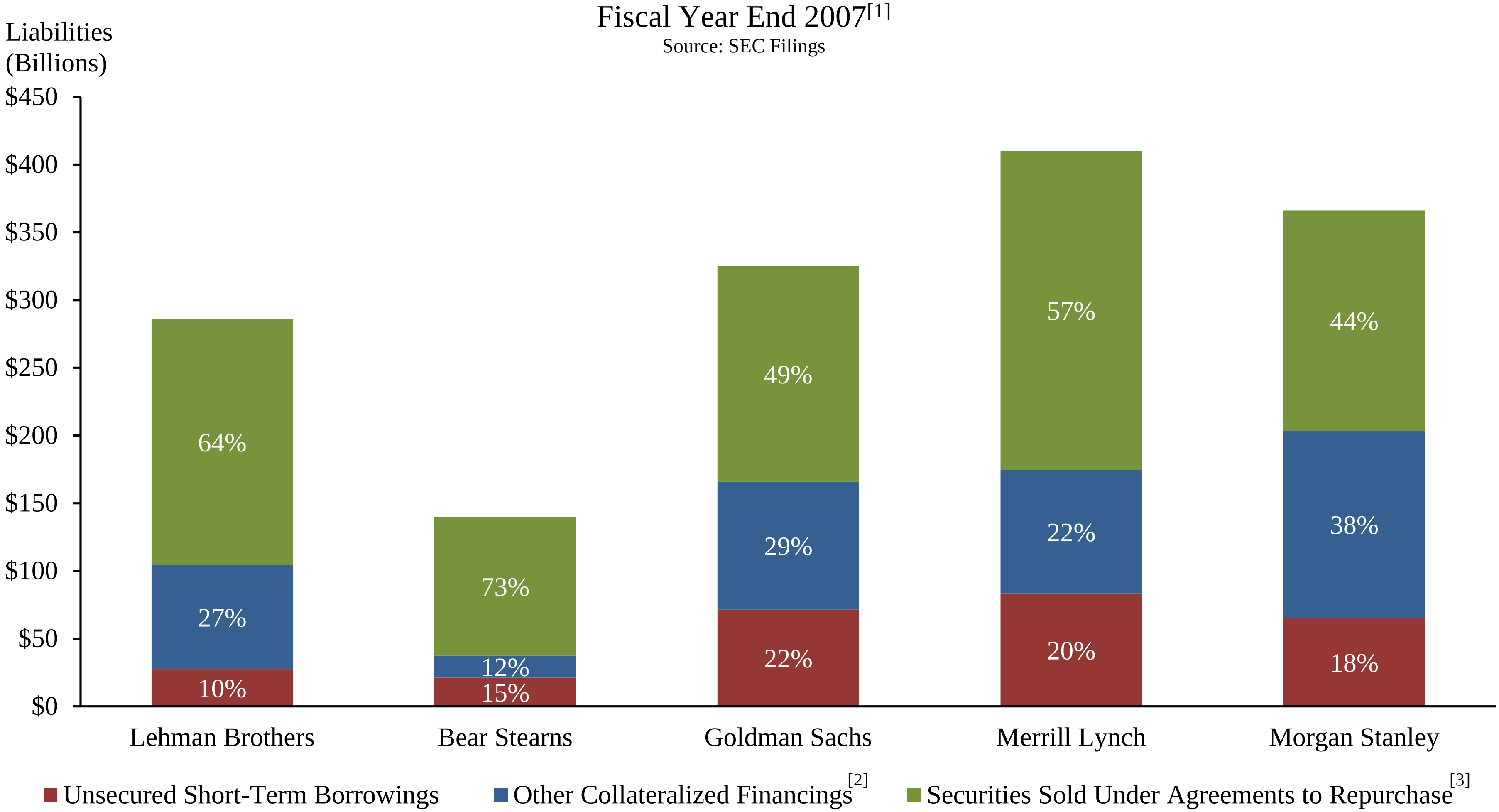
Note:
[1] Net Leverage is calculated in accordance with each company's own methodology. Merrill Lynch reported both an Adjusted Tangible Leverage Ratio and an Adjusted Leverage Ratio. The Adjusted Leverage Ratio is plotted here since it is the only leverage ratio reported for the entire time period shown.
[2] Fiscal quarter ends for all companies except Merrill Lynch are in February, May, August, and November. Merrill's quarter ends are calendar quarter ends plus or minus a few days.

Exhibit 2
Lehman Brothers and Peers Funding Structure As Reported[1]
Fiscal Year End 2007
Source: SEC Filings



Note:
[1] The 2007 fiscal year ended on November 30, 2007 for all companies except Merrill Lynch, whose fiscal year ended on December 28, 2007.
[2] Collateralized Financings include securities sold under repo, securities loaned, and other secured borrowings. Lehman and Merrill Lynch also disclose secured short-term financings and/or long-term borrowings separately. These amounts are included in Total Collateralized financings.
[3] Unsecured short-term borrowings typically include commercial paper, bank notes, promissory notes, and current portion of long-term borrowings. Bear Stearns also includes medium-term notes in its short-term unsecured borrowings.
[4] Lehman, Bear Stearns, and Morgan Stanley do not specify whether long-term borrowings are secured or unsecured. They are assumed here to be unsecured.

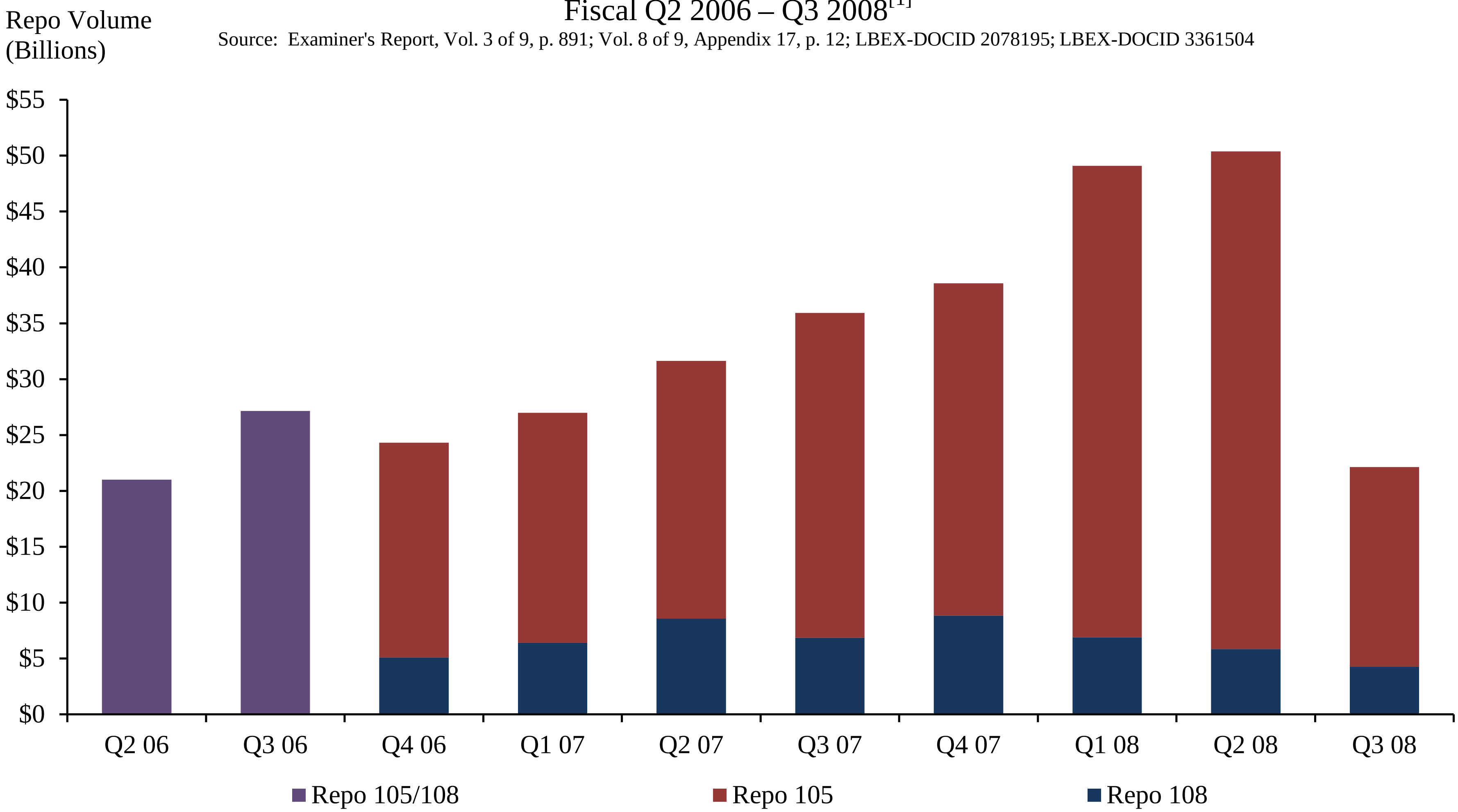
Exhibit 3
Lehman Brothers and Peers Funding Structure
Collateralized Financings and Short-Term Borrowings As Reported
Fiscal Year End 2007[1]
Source: SEC Filings



Note:
[1] The 2007 fiscal year ended on November 30, 2007 for all companies except Merrill Lynch, whose fiscal year ended on December 28, 2007.
[2] Lehman and Merrill Lynch also disclosed secured short-term and/or long-term borrowings separately. These amounts are included in Other Collateralized Financings.
[3] Unsecured short-term borrowings typically include commercial paper, bank notes, promissory notes, and current portion of long-term borrowings. Bear Stearns also includes medium-term notes in its short-term unsecured borrowings.

Exhibit 4
Lehman Brothers
Repo 105 and Repo 108 Volume
Fiscal Q2 2006 – Q3 2008[1]

Source: Examiner's Report, Vol. 3 of 9, p. 891; Vol. 8 of 9, Appendix 17, p. 12; LBEX-DOCID 2078195; LBEX-DOCID 3361504

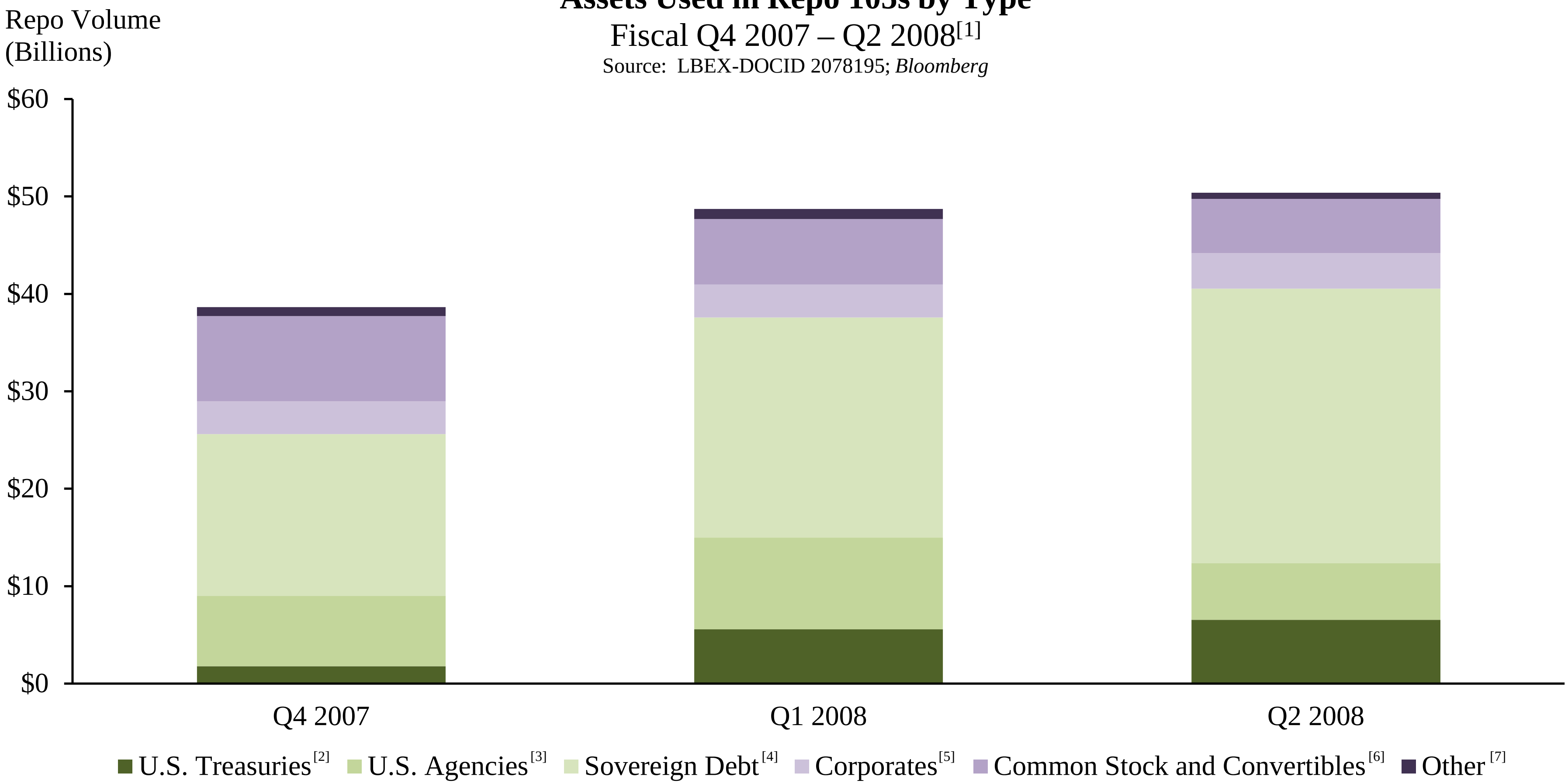


Note:
[1] Data on the breakdown of repos into Repo 105 and Repo 108 is not available for quarters prior to fiscal Q4 2006. Lehman began using Repo 108 transactions in May of its fiscal Q2 2006. The sum of Repo 105 and Repo 108 volumes may be slightly lower than total Repo 105 and 108 volume for fiscal quarters Q4 2006 through Q4 2007 (see Examiner's Report, Vol. 3 of 9, p. 891).

Exhibit 5
Lehman Brothers
Assets Used in Repo 105s by Type

Fiscal Q4 2007 – Q2 2008[1]

Source: LBEX-DOCID 2078195; *Bloomberg*



Note:

[1] Data that itemize the assets underlying Repo 105s and Repo 108s are only available for fiscal Q4 2007, Q1 2008, and Q2 2008.

[2] U.S. Treasuries are those ISINs whose Bloomberg Security Type is "US Government."

[3] U.S. Agencies are those securities whose product names include Fannie Mae, Freddie Mac, Federal Home Loan Bank System, Federal Farm Credit Bank, and Tennessee Valley Authority. This category also includes Agency MBS.

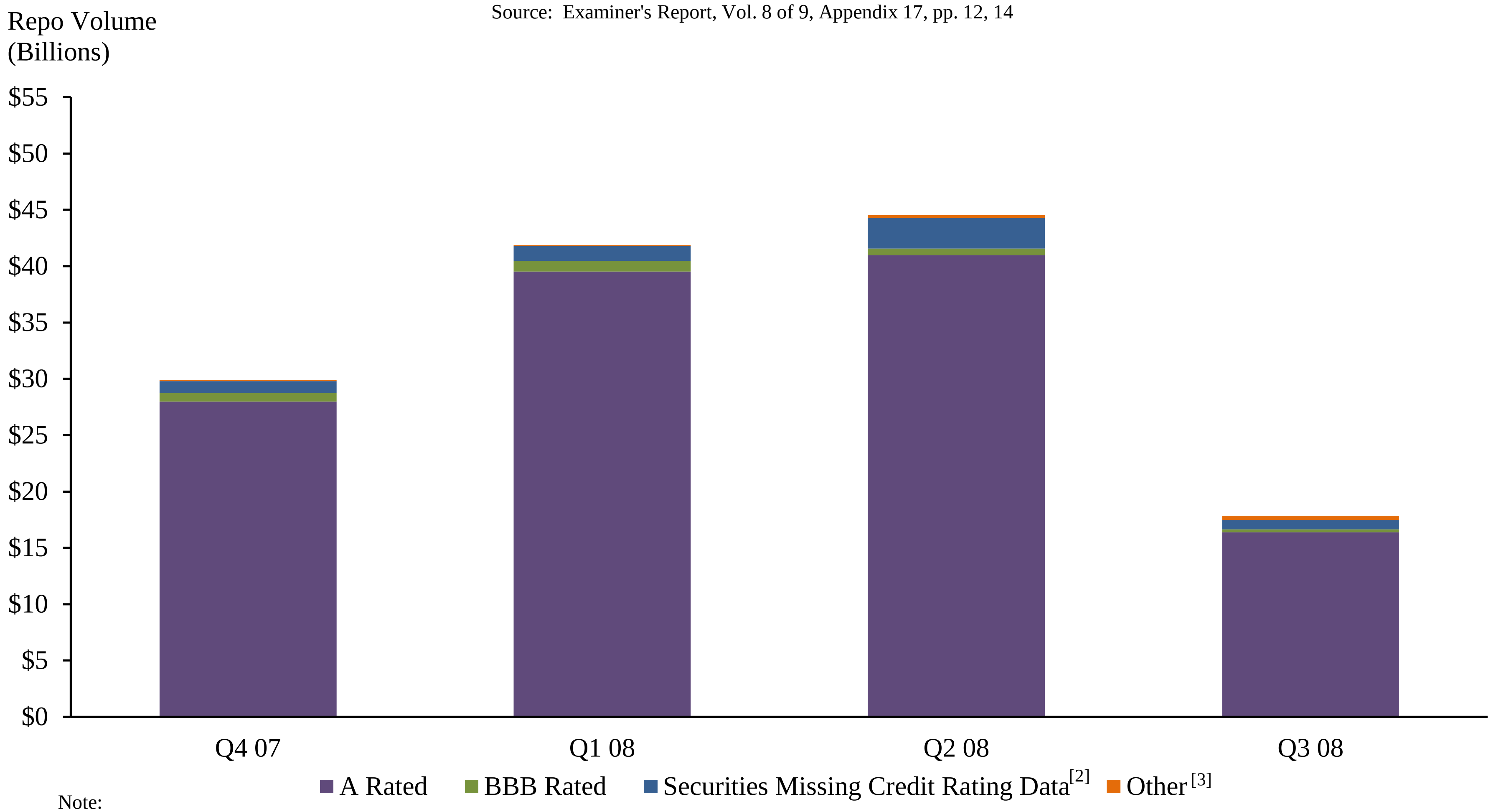
[4] Sovereign Debt securities are non-agency ISINs whose Bloomberg Industry Group is "Sovereign."

[5] Corporates are all non-government ISINs classified as "Bonds" by Bloomberg.

[6] Common Stock and Convertibles are those ISINs whose Bloomberg Security Type is "Common Stock" or whose Repo Category is "Repo 108 Global."

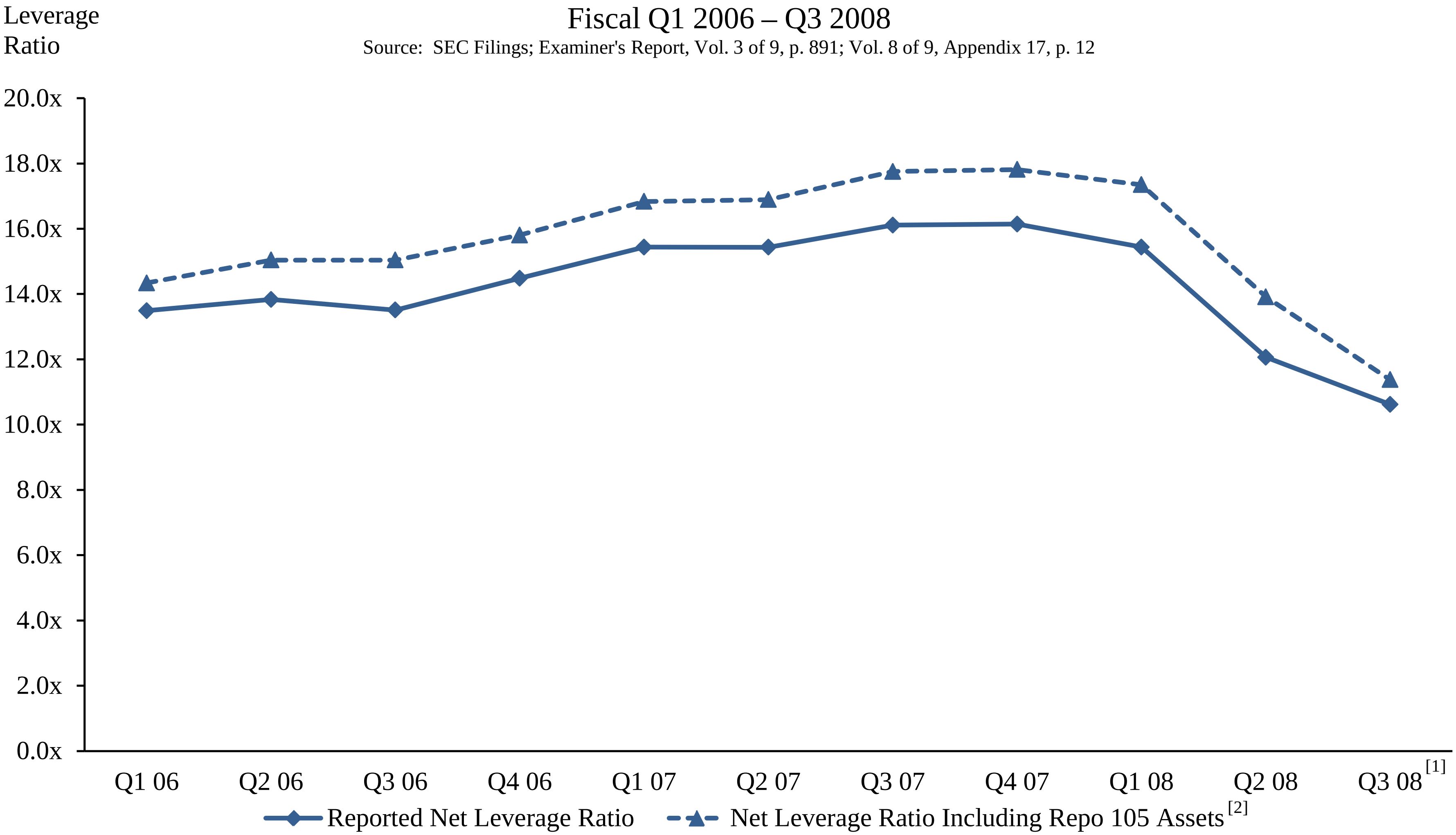
[7] Other includes all ISINs classified as "Mortgages" by Bloomberg and includes floating rate notes and asset-backed securities.

Exhibit 6
Lehman Brothers
Fixed Income Assets Used in Repo 105 by Credit Rating[1]
Fiscal Q4 2007 – Q3 2008
Source: Examiner's Report, Vol. 8 of 9, Appendix 17, pp. 12, 14



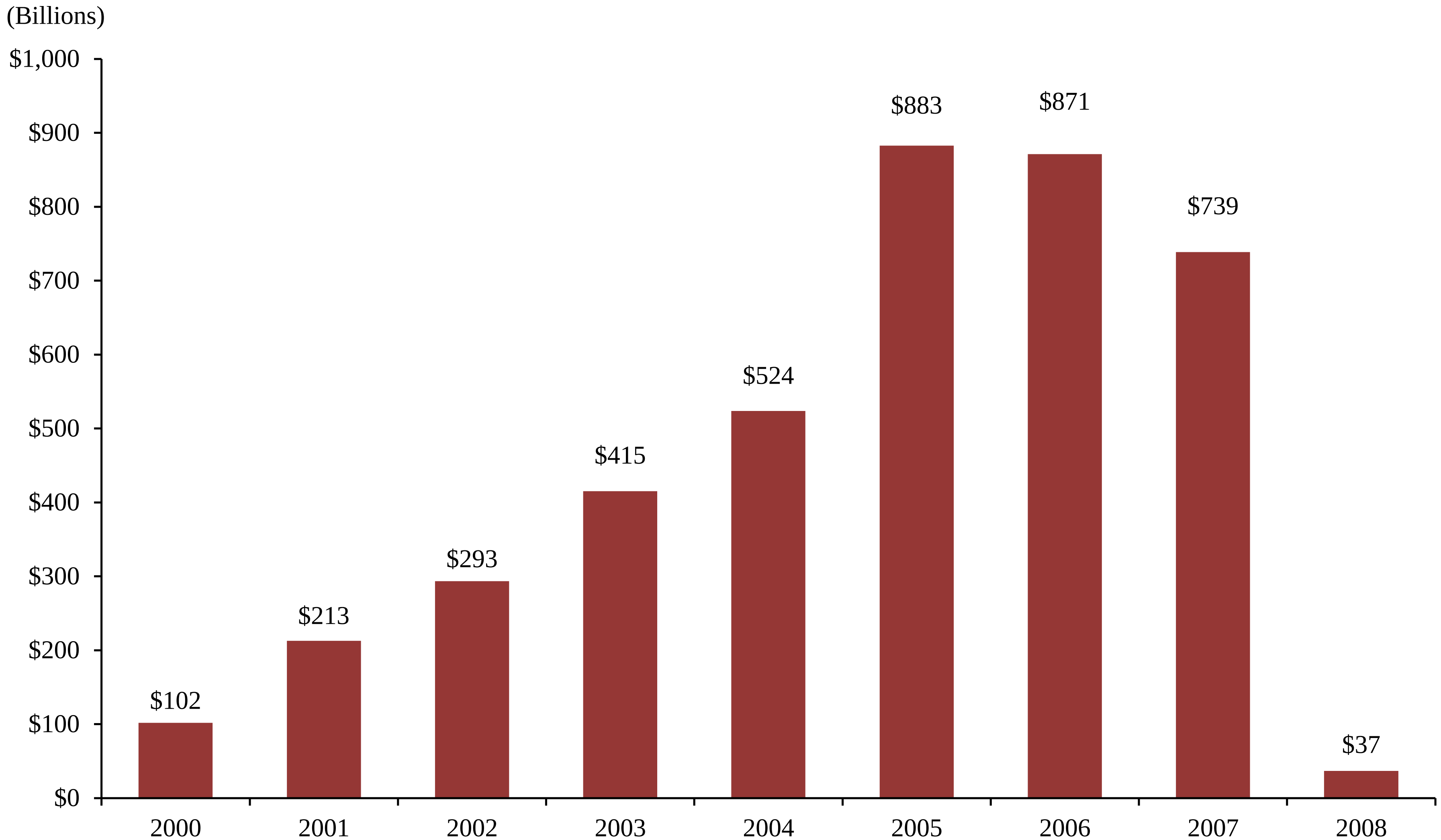
Note:
[1] Excludes equities used in Repo 105 and 108.
[2] The "Securities Missing Credit Rating Data" category comprises securities that did not have a credit rating entry in the GFS balance sheet. The securities with missing credit rating information as of May 30, 2008 were identified by the Examiner as U.S. Treasury Inflation Index Notes, Japanese and German Treasuries, and U.S. Agencies.
[3] The "Other" category includes BB, B, CCC, C, and NR.

Exhibit 7
Lehman Brothers
Net Leverage Ratio
Fiscal Q1 2006 – Q3 2008
Source: SEC Filings; Examiner's Report, Vol. 3 of 9, p. 891; Vol. 8 of 9, Appendix 17, p. 12



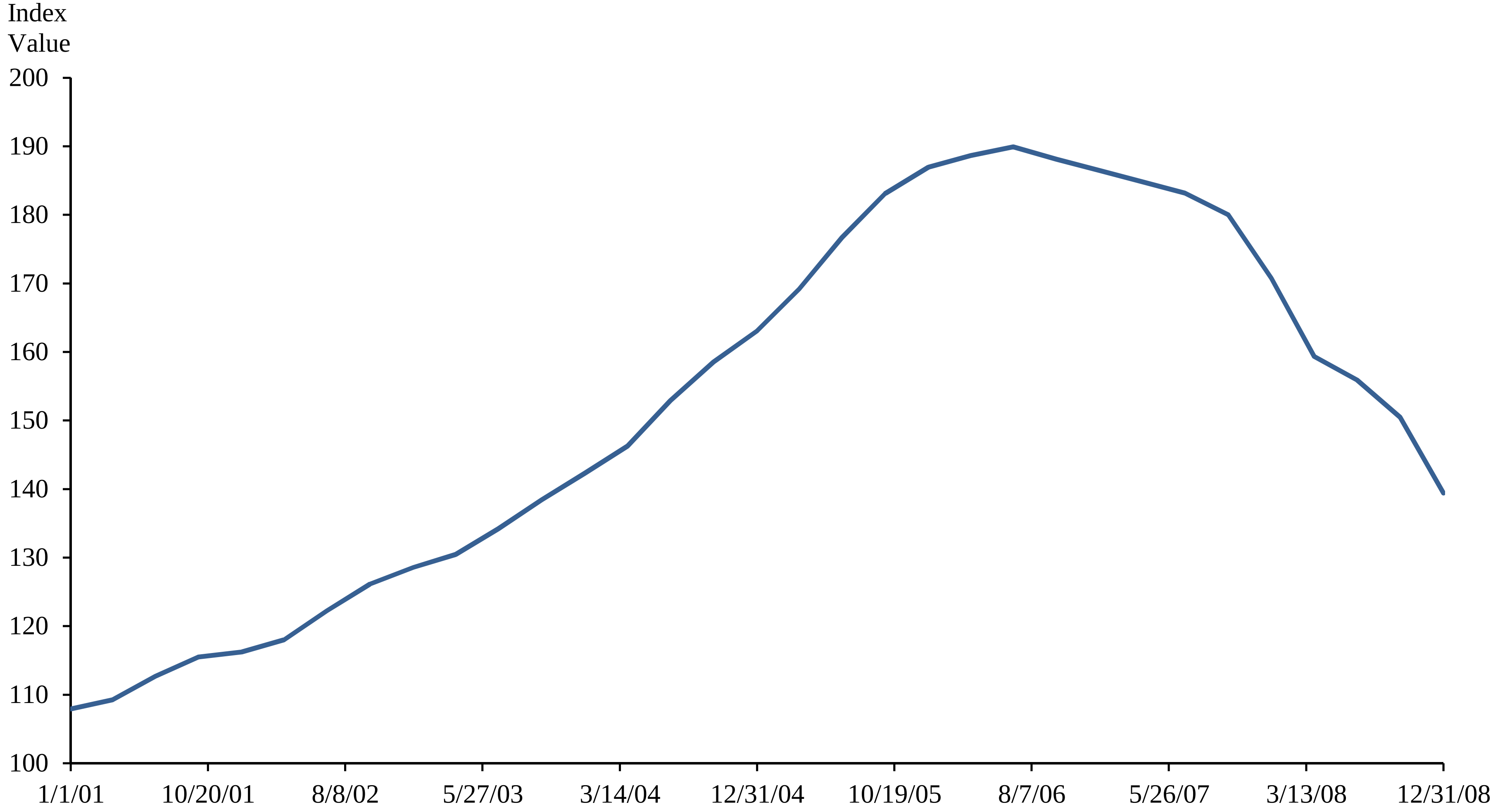
Note:
[1] For fiscal Q3 2008, ratios are based on financial data provided in Lehman's fiscal Q3 2008 preliminary earnings press release published 9/10/08. A corresponding 10-Q for this quarter was never filed.
[2] Consistent with the Examiner's Report, Lehman's net leverage ratio is adjusted by adding the total amount of Repo 105 assets to Lehman's net assets.

Exhibit 8
U.S. Non-Agency Issuance of Mortgage Backed Securities[1]
2000 – 2008
Source: Securities Industry and Financial Markets Association



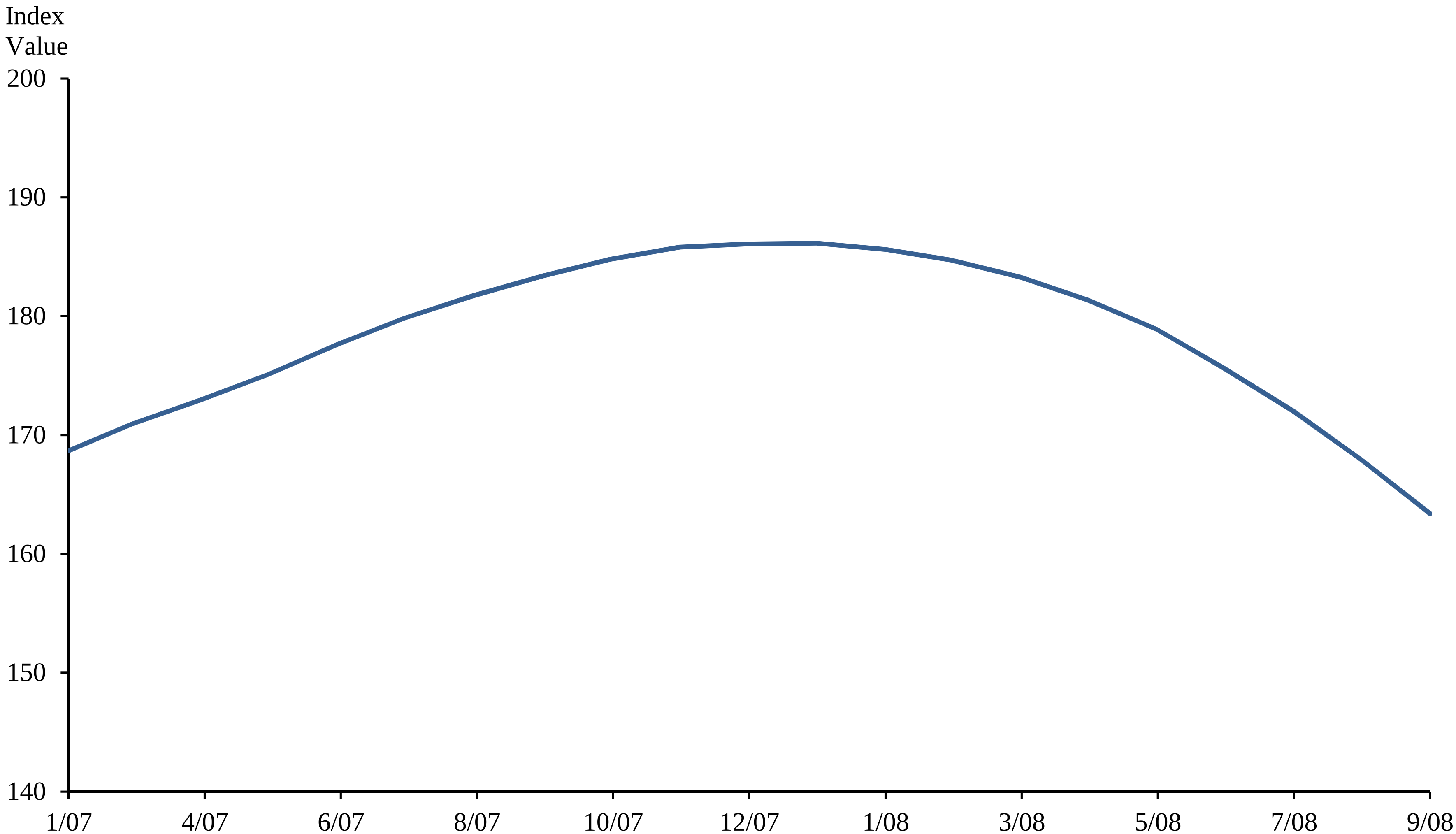
Note:
[1] Includes both commercial mortgage-backed securities and residential mortgage-backed securities. Does not include subprime according to SIFMA.

Exhibit 9
Case-Shiller Home Price Index
1/1/01 – 12/31/08
Source: *Bloomberg*



Note: The National Home Price Index, calculated quarterly, is a composite of single-family home price indices for the nine U.S. Census divisions.

Exhibit 10
Moody's/RCA Commercial Property Price Index
1/07 – 9/08
Source: Moody's/RCA Commercial Property Price Index



Note: Data are reported monthly and assumed to be for index as of month end. The Commercial Property Price Index is pegged at 100 on 12/31/00.

Exhibit 11
U.S. Subprime Mortgage Originations
2001 – 2008
Source: Inside Mortgage Finance

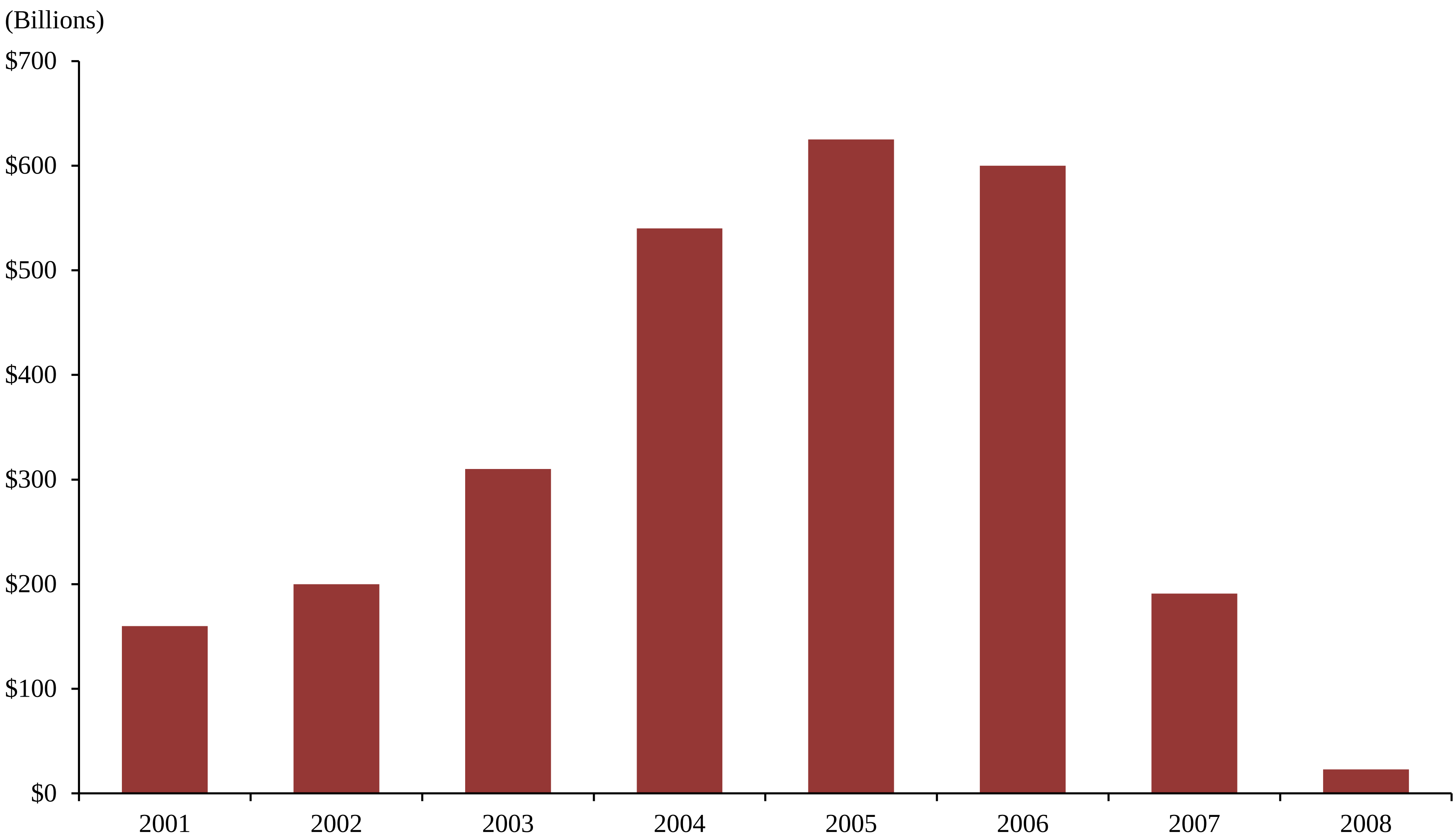
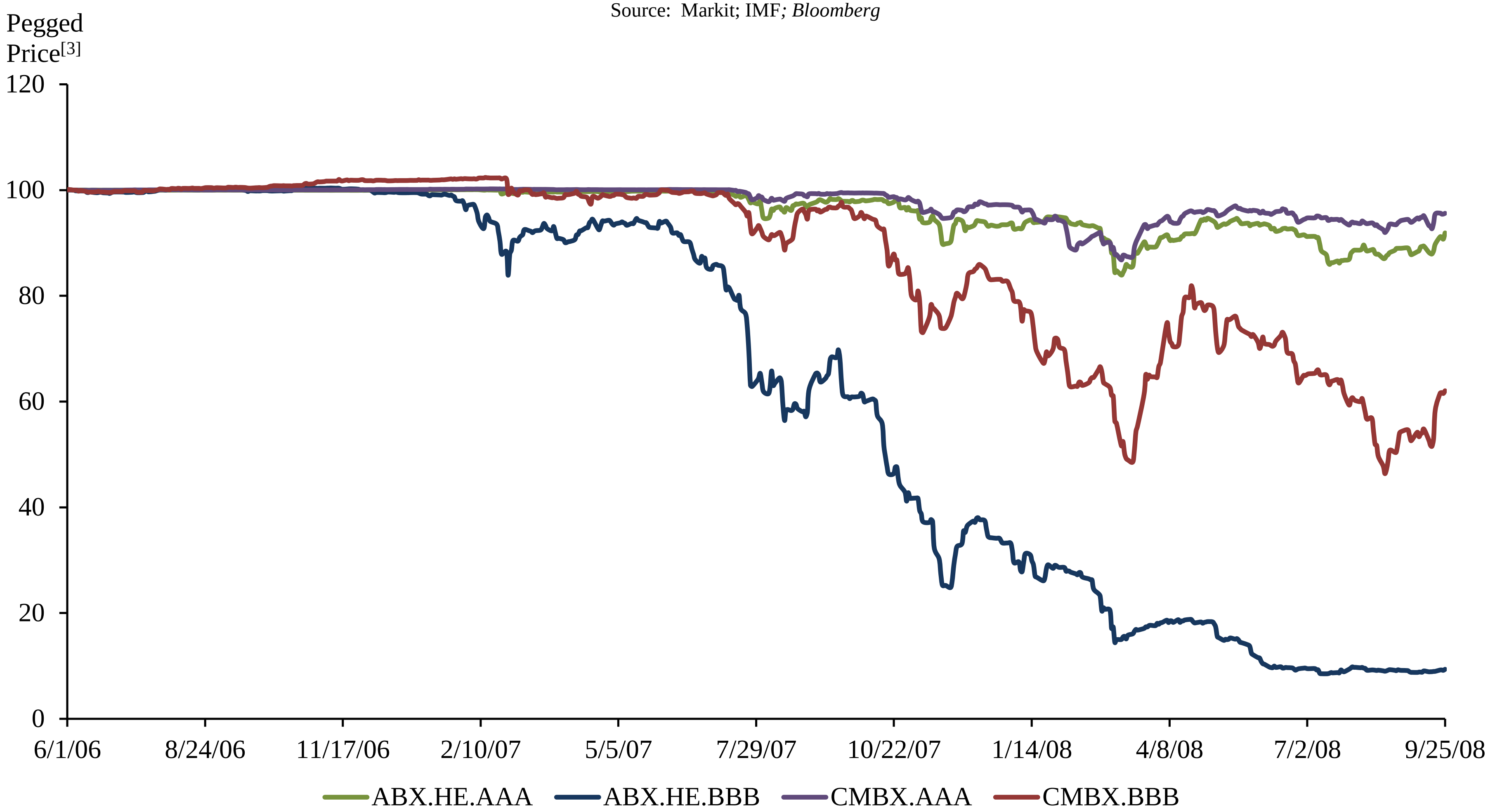


Exhibit 12
ABX Series 06-1[1] and CMBX Series 1[2] Indices
6/1/06 – 9/25/08

Source: Markit; IMF; *Bloomberg*



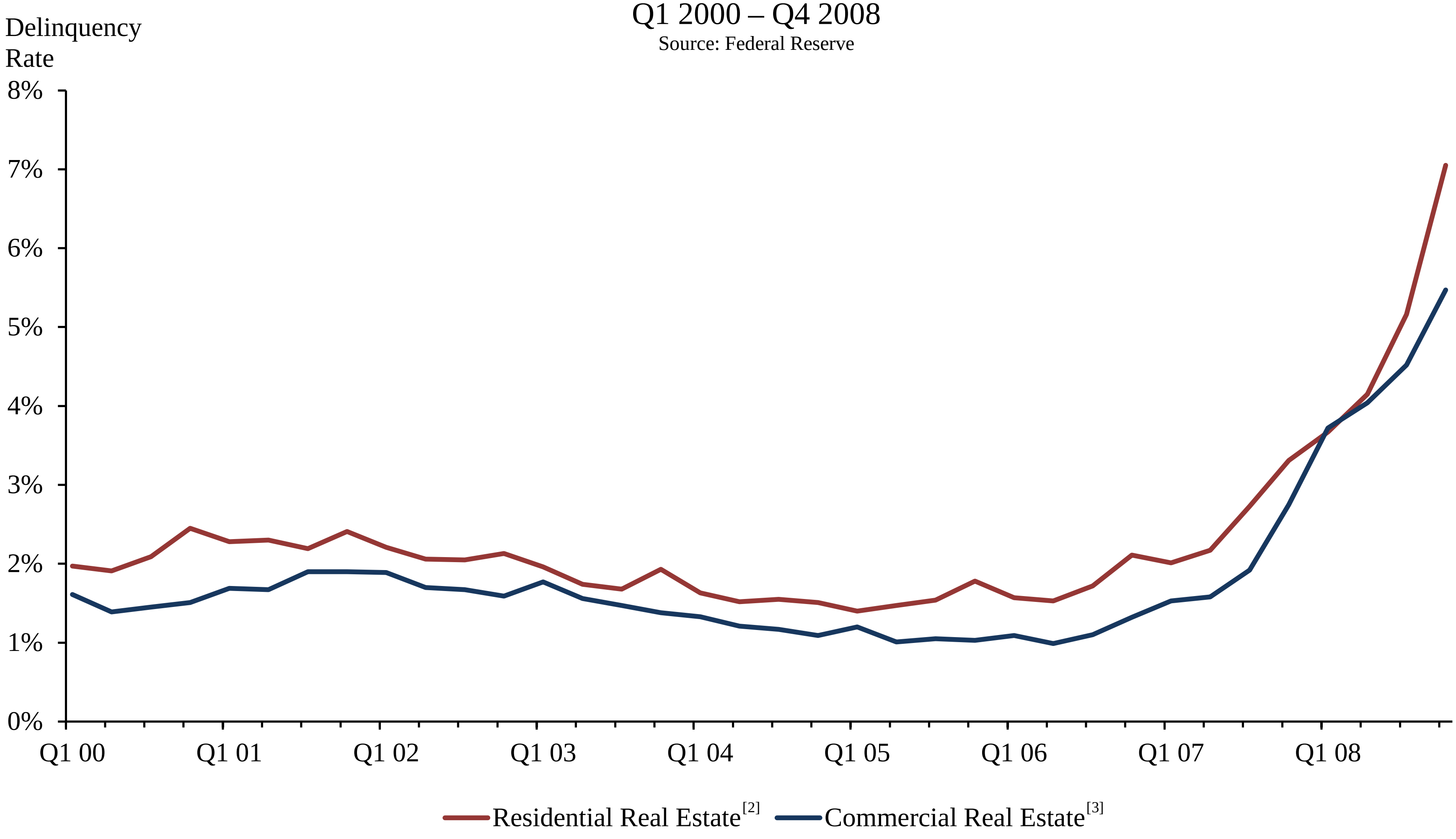
Note:

[1] The Markit ABX.HE index is a synthetic tradeable index referencing a basket of 20 subprime mortgage-backed securities. For both AAA and BBB indices, series 06-1 are used. These series launched on 1/19/06 and are composed of selected securities issued prior to that day.

[2] The Markit CMBX index is a synthetic tradeable index referencing a basket of 25 commercial mortgage-backed securities. For both AAA and BBB indices, series 1 are used. These series lauched on 3/7/06 and are composed of selected securities issued prior to that day.

[3] All indices are pegged to 100 on 6/1/06.

Exhibit 13
Real Estate Mortgage Delinquency Rate[1]
Q1 2000 – Q4 2008
Source: Federal Reserve



Note:
[1] Federal Reserve Economic Data is provided for every calendar quarter.
[2] Residential Real Estate data series is based on the non-seasonally adjusted delinquency rate of single-family residential mortgages booked in domestic offices.
[3] Commercial Real Estate data series is based on the non-seasonally adjusted delinquency rate of commercial real estate loans excluding farmland booked in domestic offices.

Exhibit 14
Volume of Outstanding U.S. Asset Backed Commercial Paper
1/3/01 – 12/31/08
Source: Federal Reserve

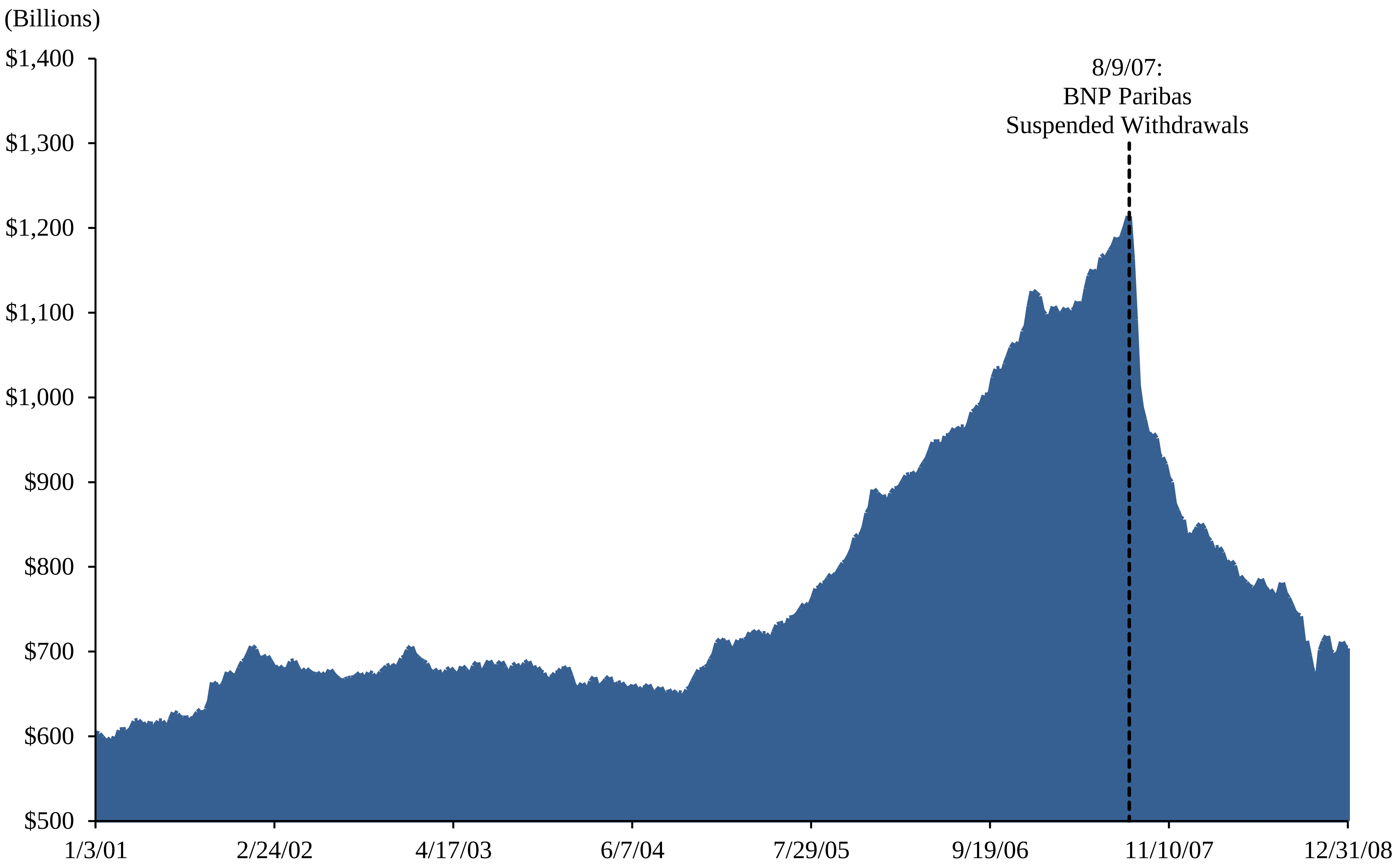
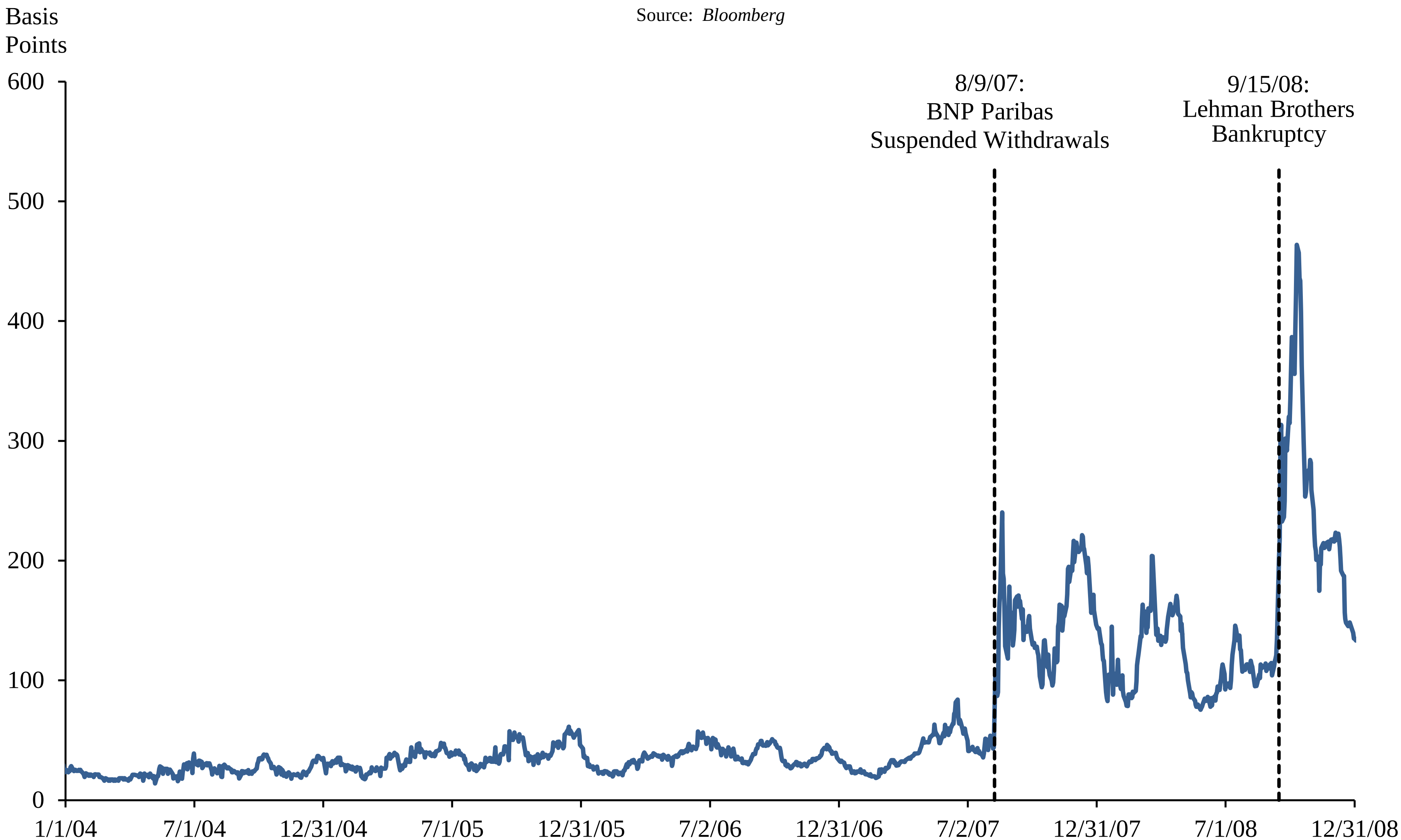
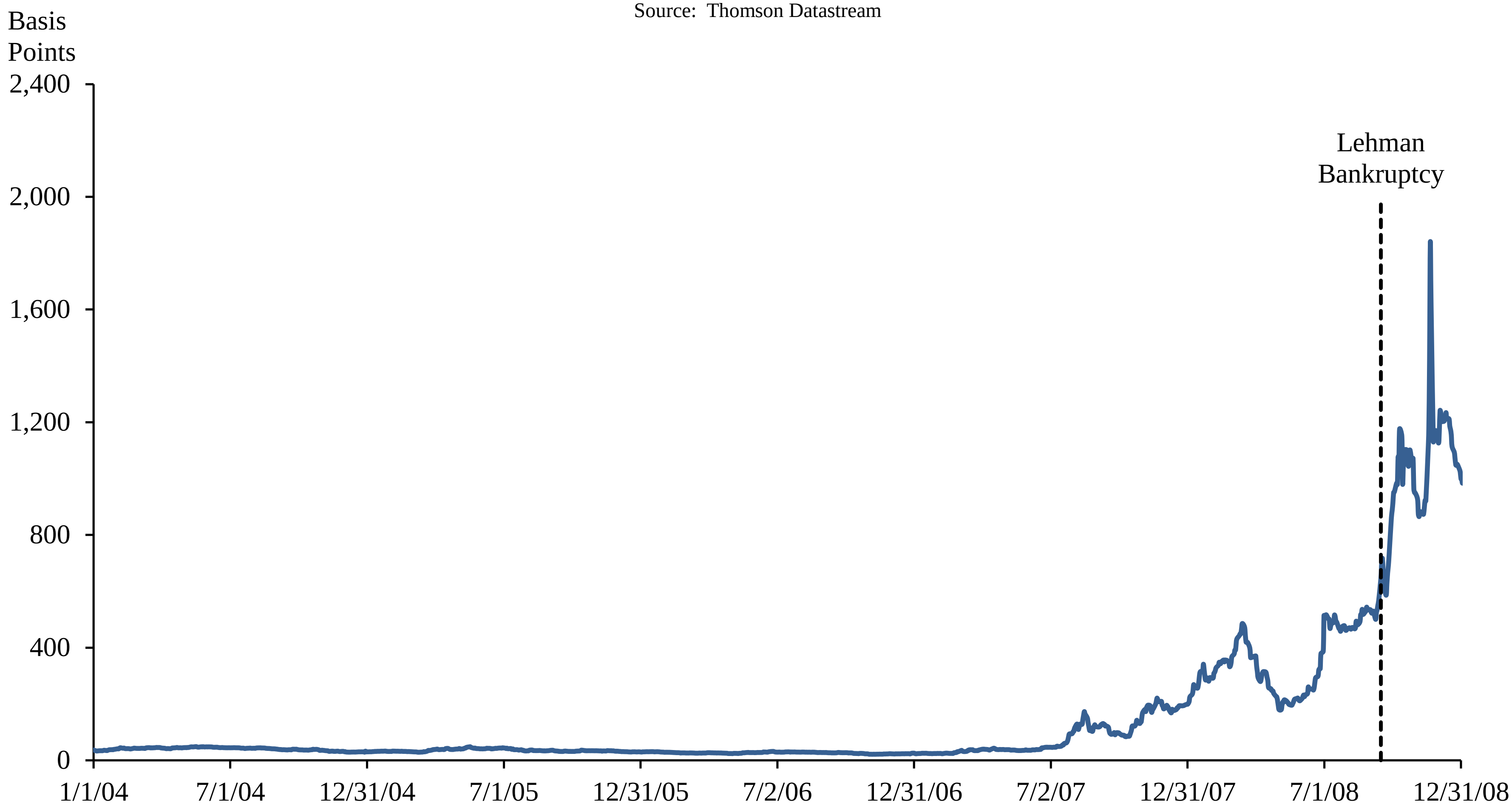


Exhibit 15
TED Spread[1]
1/1/04 – 12/31/08
Source: *Bloomberg*



Note:
[1] TED spread is calculated as the difference beween the three-month T-bill interest rate and three-month LIBOR.

Exhibit 16
United States 5-Year Financial Services Sector Credit Default Swap Index[1]
1/1/04 – 12/31/08
Source: Thomson Datastream

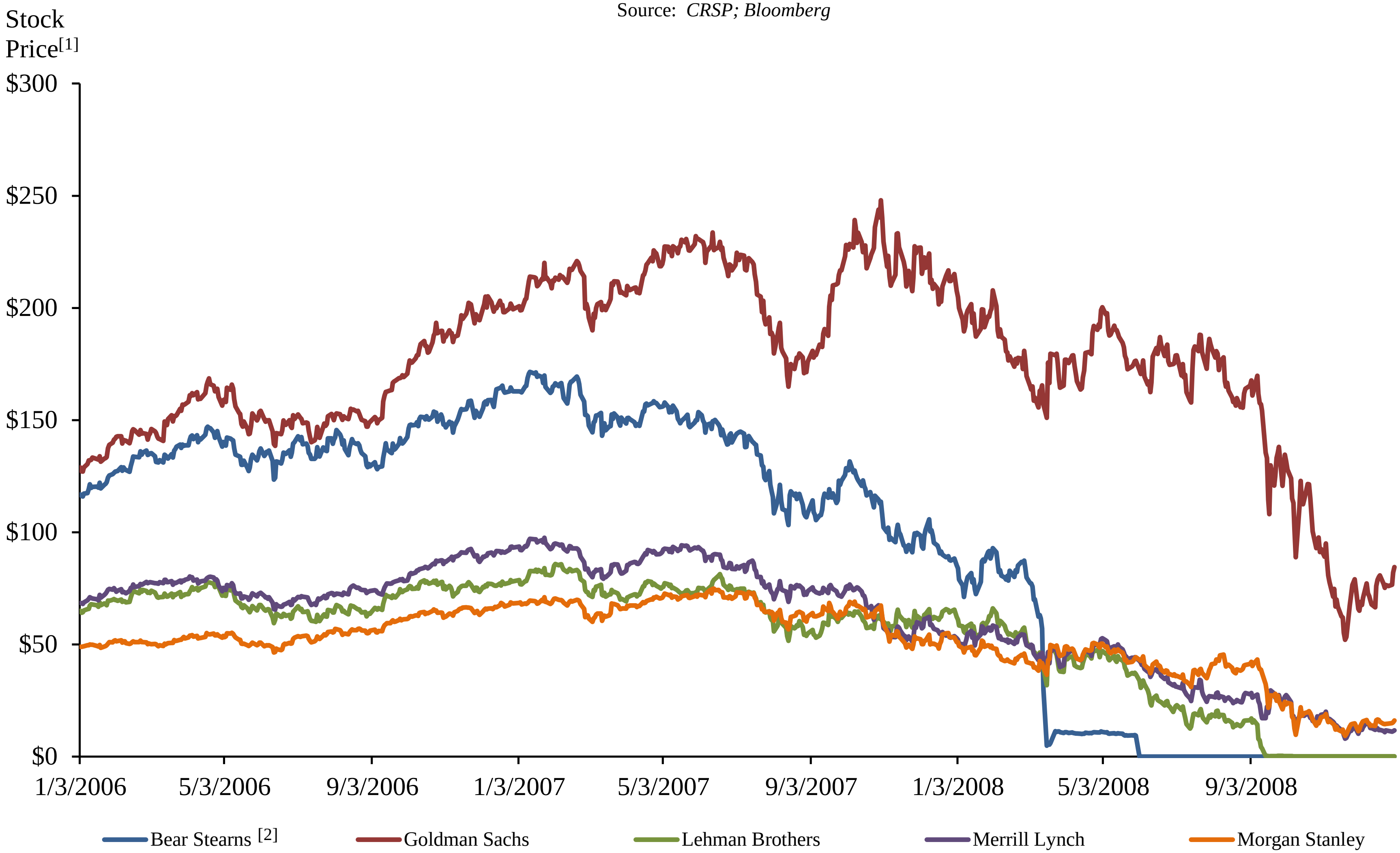


Note:
[1] The 5-Year financial services sector credit default swap index was created by Thomson Financial. It reflects the price performance of a basket of corporate 5-year credit default swaps within the financial sector, with regional subdivisions. The index is rebalanced every six months to better reflect liquidity in the credit default swap market.

Exhibit 17
Lehman Brothers
Inventory of Mortgage and Asset-Backed Securities and
Real Estate Held For Sale
Fiscal 2003 – Q2 2008[1]
Source: SEC Filings

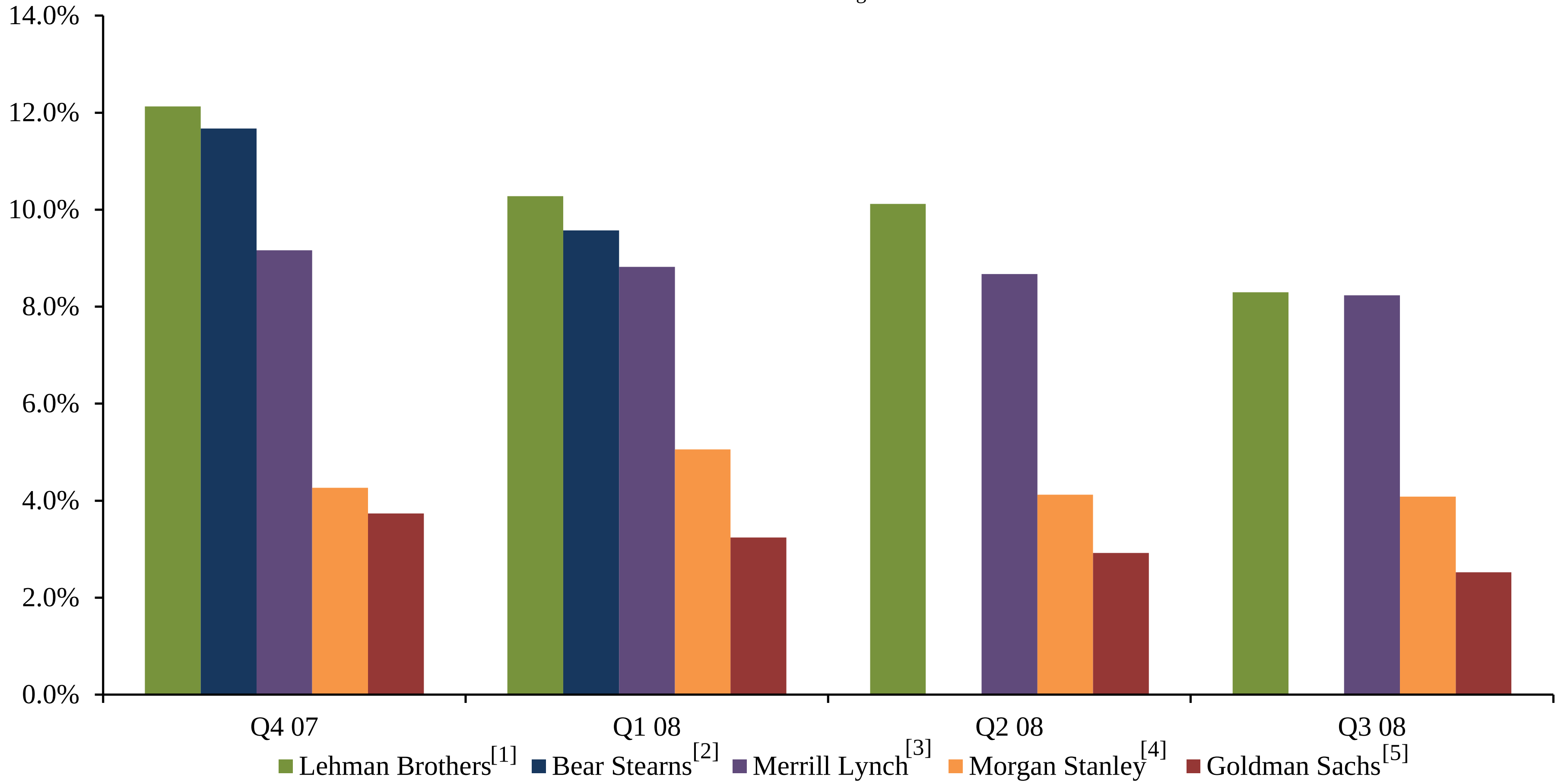
Note:
[1] For 2004, 2006, and 2007, inventory of mortgage and asset-backed securities and real estate held for sale is based on data provided within Lehman's10-K for the corresponding year. However, for 2003 and 2005, inventory of mortgage and asset-backed securities and real estate held for sale is based on data provided within Lehman's 10-K for the following year.

Exhibit 18
Lehman Brothers Closing Stock Price vs. Peer Companies
1/3/06 – 12/31/08
Source: *CRSP; Bloomberg*



Note:
[1] Stock prices are adjusted for dividends.
[2] Bear Stearns was acquired by J.P. Morgan on March 16, 2008.

Exhibit 19
Residential and Commercial Real Estate Exposure as Percent of Total Assets
Fiscal Q4 2007 – Q3 2008
Source: SEC Filings



Note:
Residential and commercial real estate exposure for each firm includes:
[1] Lehman Brothers: Long positions in residential mortgages, commercial mortgages, and real estate-related investments.
[2] Bear Stearns: Mortages, mortgage backed, and asset backed securities.
[3] Merrill Lynch: Net exposure in residential mortgages, US ANBS CDO, US bank subsidiaries investment securities portfolio, and commercial real estate.
[4] Morgan Stanley: Direct US subprime trading exposures, securities portfolio of subsidiary banks, non-subprime residential mortgages, and commercial mortgage-backed securities. Q1 08 also includes commercial whole loans.
[5] Goldman Sachs: Long positions in loans and securities backed by commercial and residential real estate.

Exhibit 20
Analyst Quotes Relating to Asset Quality[1]
Aug 2006 – Sep 2008

Date	Report Issuer	Quote	Page
9/13/06	CIBC	Plus, we believe LEH carries de minimus actual credit exposure to US mortgages.	1
9/13/06	CIBC	The bulk of questions on today's conference call focused on Lehman's perspective on the mortgage market. While Lehman is expanding its mortgage business outside of the US and even purchased a mortgage company in the UK during the third quarter, CFO Christopher O'Meara did not rule out the possibility of acquiring a mortgage business inside the US to augment its existing business. Given the sheer number of questions related to Lehman's mortgage business during the call, we thought it would be helpful to investors to review our thesis on the US mortgage industry which is far more constructive than recent analysis in the media. Shown below is some pertinent information regarding the US housing industry. We note that while home prices have decelerated, they have not collapsed. While new home sales have slowed, they have not collapsed.	7
1/11/07	Fox-Pitt, Kelton	While mortgage technically provides some risk, we believe this will be more superficial (headline risk) than tangible.	1
2/7/07	Credit Suisse	With respect to mortgage… there remains a focus on Lehman's exposure to mortgages and the subprime segment in particular.	1
3/1/07	Fox-Pitt, Kelton	Market seems to have discounted LEH shares several times over due to its presence in subprime. We view this as an example of where the market is pricing more on surface appearance while important details are being blatantly ignored (the hedging dynamics).	1
3/14/07	CIBC World Markets	At this point, we believe investors are simply unwilling to believe subprime risk is in fact contained, hence stock weakness.	1
3/14/07	Credit Suisse	"What to watch…prospects in the mortgage businesses. Valuation dictates our Neutral rating."	1
3/14/07	JPMorgan	"We maintain our Neutral rating due to...emerging concerns on the impact of the sub-prime meltdown on revenue growth." "We lower our total capital market revenue to $3.1 billion from $3.3 billion exclusively due to lower fixed income capital market revenue in 2Q07 and 3Q07. Write-downs and lower securitization volumes in subprime and potentially in Alt-A could have a negative impact on revenue."	1, 2
3/15/07	Bernstein Research	"**The Eight Hundred Pound Gorilla – Sub-Prime Risk...** Despite this very credible performance, the focus of investors' attention remained on Lehman's mortgage-backed securities business and the potential impact of the sub-prime mortgage meltdown on the trading businesses. This concern is well illustrated by the credit default swap (CDS) spreads for Lehman (as well as the other brokerage firms) which have increased sharply in recent weeks, driven by sub-prime mortgage concerns."	10

Exhibit 20
Analyst Quotes Relating to Asset Quality[1]
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3/15/07	Bernstein Research	"But the concern is contagion. As the slow motion train wreck of sub-prime is slowly played out, investors will remain concerned that these problems and the counterparty risk associated with subprime market exposure could impact the credit market."	3
3/15/07	Bernstein Research	In addition the firm confirmed that it had a "fair amount" of balance sheet exposure to the subprime mortgage market. They also disclosed a sharp increase in its balance sheet leverage and the firm took its VaR up. This is probably not the best way to calm the waters during a period of market stress.	3
3/15/07	UBS	"**Macro Issues Will Likely Drive the Stock For Now** Given the macro concerns around mortgage and possible contagion to other asset classes coupled with questions on how fast LEH can grow over the next 12 months given its business mix, we think the stock could be range-bound for a little while."	1
3/15/07	UBS	"we think its valuation is fine, but doubt too many investors are going to 'load the boat' given the troubles in mortgage land and continued uncertainty related to possible contagion. We see outlook and sentiment for the overall economy and potential contagion across other assets classes as the biggest drivers for the stocks right now, and we don't think estimates will be moving up at this point."	2
4/11/07	Deutsche Bank	"**The biggest issue seems related to potential cyclical pressures in fixed income activities**… Yet, it is tough for us to get a sense of the magnitude of this opportunity or the degree of risks should liquidity dry up somewhat. There are still possibilities that recent subprime mortgage problems spill over to other areas. The bigger concern is that credit spreads widen from abnormally low levels. If so, there is the risk that areas of Lehman's greatest contributing businesses, fixed income trading, could feel pressure."	3
4/11/07	Deutsche Bank	"**Leveraged to mortgage banking:** Lehman has one of the largest vertically-integrated mortgage operations. If there is a fallout in this segment beyond subprime, Lehman could feel the impact disproportionately."	6
5/1/07	Credit Suisse	"What to watch… prospects in the mortgage business (bottoming out?)."	1
5/1/07	Deutsche Bank	"**Some Headwinds and Risks** While spillover from subprime mortgage seems contained, revenues are likely more permanently down, creating a likely drag in 2007. Also, Lehman continues to spend for non-U.S. growth, with more back-ended benefits in Asia. The key general risk is Lehman's ability to manage a likely less robust fixed income market."	1
5/18/07	Fox-Pitt, Kelton	**Mortgage Weakness Fully Captured in the Stock.** We believe the return of U.S. mortgage volume is inevitable in a scenario where global economic and capital markets activity remains robust, a key assumption of our bullish group call. Frankly, if this underlying assumption proves wrong, then none of the Inv. Banks/Brokers would be worth owning, although less expensive names like LEH should decline less.	1
6/12/07	Fox-Pitt, Kelton	LEH has again demonstrated its diversification and strong momentum in most every business line, which perhaps can help investors finally get beyond what, in our view, are excessive subprime concerns.	1

Exhibit 20
Analyst Quotes Relating to Asset Quality[1]
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Date	Report Issuer	Quote	Page
6/13/07	JPMorgan	While we view Lehman as well managed and nimble, decelerating US fixed income origination volume in 2007 and a deteriorating subprime sector may lead to downward earnings revisions.	1
8/7/07	Punk Ziegel & Co.	The value of securities held on Lehman's balance sheet is lower. The magnitude of the loss is unknown at this point but it is unlikely that Lehman was able to fully hedge against this decline. Therefore, when the firm marks to market, inventory losses are likely to be recorded.There is also the related problem that many of the securities held at Lehman are marked-to-model. These models may be faulty and, therefore, adjustments may be necessary here also.	1
9/11/07	UBS	At the end of the day, markets run on credibility and confidence, and management noted that there is a shortage of both right now as investors don't trust credit ratings, mark-to-model pricing, or a lot of what is being expressed by broker management teams in regard to risk management and balance sheet exposures. From our point of view, while there are some deep pockets of liquidity out there, it seems like investors won't get over this lack of confidence until they see some leveraged lending deals get cleared, see how 3Q shakes out (we think 3Q will show a wide range of results given the different business mixes, and we think Lehman will generate a respectable ROE in the mid-teens), and also see what the Fed/economic data does next.	2
9/11/07	UBS	Still, the bigger question for investors is will the mortgage meltdown and various credit-related implosions significantly impact the broader economy and cause GDP growth to slip to recessionary levels (last week's jobs report didn't help matters)? ... Unfortunately, the industry thrives on global growth and CEO confidence and if we slip to sub 2% levels, management feels earnings growth will be a lot tougher to come by.	3
9/17/07	Buckingham	We believe the fact that gross write-downs were in the \$2-\$3 billion range helps allay fears that LEH and other brokers are not taking adequate "marks" on inventory.	2
9/18/07	Citigroup	In a stable / improving credit environment, we view the probability of writing some of the negative marks back up as quite high.	1
9/18/07	Fox-Pitt, Kelton	With an aggressive \$2.7 bil. in markdowns of assets, we believe the balance sheet has been fully cleansed, and if anything, we'd expect reversals in upcoming quarters as markets are beginning to return to normalcy.	1
9/18/07	JPMorgan	The fact that level III did not jump significantly should help alleviate concerns about marking to market versus marking to model.	2
9/19/07	HSBC[2]	As for the integrity of the balance sheet, management pointed out that 90% of its inventory is Level 1 (mark-to-market) or 2 (mark-to-model) under FASB 157. Level 3 assets will increase slightly in Q4 as some mortgage-related assets transition from Level 2 to Level 3.	3

Exhibit 20
Analyst Quotes Relating to Asset Quality[1]
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Date	Report Issuer	Quote	Page
9/19/07	HSBC[2]	Add it all up and we come away feeling positive, relative to where Lehman's credit trades, about the story. Of the Big 5 US securities firms, Lehman in our opinion had the highest level of uncertainty surrounding its performance, given its highest concentration within the group in fixed income in general and the mortgage business in particular. It also had far more exposure to leveraged loans (relative to its equity base) of anyone in the group. And yet the actual results, coupled with management's helpful contextual comments, left us feeling as though the name is oversold. We believe it should trade closer to the Biggest 3 (Goldman, Morgan Stanley, Merrill Lynch), not close to Bear Stearns.	4
9/19/07	NAB Capital[2]	Unfortunately the company has not provided much in the way as how it arrived at this number (and we would point out this issue received a lot of attention on the conference call) other than to say gross markdowns on leverage loans was above $1bn (and the company acknowledged not by a small amount either) and mortgage write downs were mostly related to subprime.	1
9/19/07	JPMorgan	**Magnitude of write down and methodology still unclear.** While disclosure with regard to LBO financing write downs appears adequate, at well over $1B, we have yet to be able to test the adequacy of mortgage write downs. LEH had nearly $80B of mortgage assets as of 05/31/07. LEH did disclose write downs associated with this mortgage portfolio but not the amounts. In particular, Lehman told analysts that Level III assets increased during the quarter, from 8% to 10-11% of the securities inventory in 3Q07.	1
9/19/07	Punk Ziegel & Co.	Despite this positive outlook, I continue to have a relatively low valuation on the stock and a sell rating. Obviously, I am not accepting the positive argument. There are many reasons for this. First, I do not believe that the interest rate cut will cause immediate shifts in the housing markets. Prices are likely to trend lower and interest costs are likely to trend higher as interest rate resets on some mortgages take place. Foreclosures will continue to rise. Second, even though more money becomes available, it is not altogether sure lenders will immediately return to the patterns established in the past few years. There may be recognition that deals must be restructured to provide greater safety against risk. The discussions now underway to restructure existing deals are not going to be suspended just because the interest rate was cut by the Fed. Lenders are likely to want higher rates and greater protections. This means negative value adjustments. It is also quite possible that a number of the new securities brought to market in the past few years will be jettisoned for a period. These products grew faster and carried higher margin than traditional debt capital market products. Their disappearance from the scene may impact profits negatively. The $2.6 trillion in rollover funds may be invested in much lower-margined products. Moreover, losses on some issues may reduce the size of the $2.6 trillion expected.	1, 2

Exhibit 20
Analyst Quotes Relating to Asset Quality[1]
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Date	Report Issuer	Quote	Page
9/19/07	UBS	While we think investors were able to gain some comfort from management's disclosure surrounding the marks in leveraged lending, we think some investors came away feeling that the hit to the mortgage positions could have been bigger given the size of Lehman's portfolio and the state of the business. While we get that feeling, at the end of the day, it's really hard to see what and how big the hedges Lehman might have had on.	3
11/13/07	UBS	No doubt, risk usage is up at LEH and peers (can't sell anything lately and volatility has increased), but mgmt has moved some ABX hedges into single name CDS to avoid liquidity & basis risk, it has been very diligent on CDS counterparty risk, and is being attentive to counterparty risk in relation to the monoline insurers.	1
11/13/07	UBS	A lot of focus has been placed on Level 3 assets at the brokers and banks as these buckets have grown significantly given the lack of liquidity in the structured credit market (Lehman's Level 3 assets represented 160% of the firm's equity base at the end of 3Q), and we think Lehman did a good job giving some color on what is included in their Level 3 bucket and why it's not all "bad" stuff.	3
12/14/07	JPMorgan	Accounting treatment of portfolio vs. hedges could distort earnings picture. Earnings quality questions have arisen due to a large Level III mortgage portfolio that is marked to model and a large hedge book that is marked to market. Such disparities give management of Lehman and peers room to be either conservative or aggressive in terms of earnings.	1
12/14/07	JPMorgan	Lehman increased its Level III assets by $8B: LEH had 13% of its inventory in Level III category in 4Q07 vs. 12% of total inventory in 3Q07. Level III assets increased by $8B to $38.9B largely due to the bridge equity for the Archstone-Smith transaction. Having a higher percentage of assets in Level III especially in mortgage assets, where the liquidity has dried up and prices have been deteriorating, makes Lehman's numbers more sensitive to modeling risk.	2
1/10/08	Deutsche Bank	Leveraged to mortgage banking: Lehman has one of the largest vertically-integrated mortgage operations. If there is a fallout in this segment beyond subprime, Lehman could feel the impact disproportionately.	1
1/29/08	Deutsche Bank	The 10K also reminded us that risks still remain. Level 3 assets increased from $32.4B at the end of 3Q07 to $38.9B at year-end, including mortgage and asset backed positions which increased tfrom $23.4B to $25.2B.	1
2/6/08	Credit Suisse	With respect to mortgage… there has been concern with respect to Lehman's $90Bn residential and commercial exposures;	2
2/12/08	Bank of America	Lehman is the most levered large investment bank to the fixed income market, and hence a more challenging fixed income market (with higher long-term interest rates, lower volatility and wider credit spreads) could hurt them the most.	3
2/27/08	Buckingham	LEH has by far the largest exposure among the investment banks to commercial real estate – roughly double the next largest competitor.	2
2/28/08	Bernstein	based on available disclosures, Lehman Brothers is the most exposed to Commercial Mortgage Backed Securities as a % of tangible equity. Lehman has $39.5 billion of this gross exposure and Morgan Stanley has $31.5 billion.	2

Exhibit 20
Analyst Quotes Relating to Asset Quality[1]
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3/10/08	JPMorgan	Events that may lead Lehman to underperform our rating and its peer group include (1) a sharp deterioration in the mortgage market, (2) Lehman's inability to maintain its market share gains in investment banking, (3) the firm's inability to grow its equity trading volumes in line with the market or its peers, or (4) significant market underperformance at its investment management arm.	2
3/13/08	Morningstar	Turmoil in the credit market, caused by the downturn in the housing market, and the fallout of the subprime mortgage market has caused continued stress in the financial markets.	2
3/19/08	JPMorgan	Lehman Brothers (LEH) and Goldman Sachs (GS) both reported earnings that beat street estimates, but we note that estimates have been reduced significantly over the last month. That said, given the events of the last week the announcements should be positive for spreads. We will focus more on liquidity and the marked to market write downs for high risk assets since that is our paramount concern.	
3/19/08	Punk Ziegel & Co.	There was a very detailed discussion of the company's assets and a table provided to demonstrate that the write downs being taken were manageable. Very important in this discussion was the explanation of the various actions that the firm took through effective risk management to lower the actual loss.	
3/19/08	UBS	As good as Lehman has been at managing its exposures, we still have some concerns about the shear [sic] size and composition of the $31.8 billion of residential mortgage position ($14.8 billion of mostly Alt-A) and $31 billion of commercial mortgage position (Lehman sold $5 billion worth post the end of the quarter) on their books at a time when it seems that the illiquidity and deleveraging trends will continue in the face of a weakening economy.	3
3/19/08	Buckingham	Liquidity position as of yesterday did not change materially from the end of 4Q. Cash was down to reflect the repurchase of commercial paper, but that was offset by a roughly similar $4 billion increase in unencumbered assets. In total, cash was $30 billion and unencumbered assets (which LEH can loan out for cash) were $163 billion. We calculate total liquidity by placing a 15% haircut on the unencumbered assets and adding that to cash – i.e. $169 billion in available liquidity. Management also noted that nearly all of the unencumbered assets are able to be pledged to the Fed for cash under its new lending facility for primary brokers. And again, as we discussed in our report on Monday regarding broker liquidity, LEH has the best liquidity position among all of the brokers when looking at potential drains on cash from short-term debt, repo financing, and customer balances.	3
3/19/08	UBS	Still, while we think mgmt did a good job of putting the liquidity issue to bed, LEH still has considerable mortgage exposure (~$63 bn), deleveraging is likely to continue & the overall economic and earnings environment remains challenging.	1

Exhibit 20
Analyst Quotes Relating to Asset Quality[1]
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Date	Report Issuer	Quote	Page
3/19/08	UBS	Looking ahead, as good as Lehman has been at managing its exposures, we still have some concerns about the shear size and composition of the $31.8 billion of residential mortgage position ($14.8 billion of mostly Alt-A) and $31 billion of commercial mortgage position (Lehman sold $5 billion worth post the end of the quarter) on their books at a time when it seems that the illiquidity and deleveraging trends will continue in the face of a weakening economy.	3
3/23/08	Oppenheimer	While LEH's core franchise was not solely mortgages, no doubt the industry at large will be hurt from the deleveraging associated with said asset bubble. For Lehman specifically, this translates into lower structured product sales globally, a balance sheet tie-up with illiquid assets, and a protracted environment of mark to market adjustments associated with those write-downs.	1
3/31/08	Oppenheimer	Lehman has diversified its business both geographically as well as from a product standpoint over the past decade; however, this offers little solace in a market that is being hit across all geographies and across all product categories. While LEH's core franchise was not solely mortgages, no doubt the industry at large will be hurt from the deleveraging associated with said asset bubble.	2
4/1/08	Buckingham	LEH's net leverage ratio of 15.4x in 1Q08 was not out of line with its peer group (actually slightly lower), and the company seemed to be making progress in lowering net leverage (down from 16.1x in 4Q). Moreover, despite larger than average exposure to commercial and residential mortgages, LEH's risk management performance has been strong, with solidly profitable quarters over the past nine months. In our view, further reductions in illiquid assets and growth in retained earnings should have enabled LEH to reach its target of lowering its leverage ratio by 1-2 turns over the next 6-12 months.	2
4/9/08	Deutsche Bank	Lehman intends to continue to "de-risk" (incl. sales of $15B of its $75B of mrtg assets), de-lever (by 20% total), and make a stronger balance sheet that generates superior riskadjusted returns.	1
4/9/08	Deutsche Bank	Lehman feels a need to continue to delever and derisk, resulting in a reduction of its net leverage ratio from 15x at the end of 4Q07 to likely 12x, or a full 20% deleveraging. This will partly get done by reducing mortgage assets by $15B (of a total of $75B). The result could be a reduction in the long-term ROE from 20%-25% toward 15%, or closer to the average since its 1993 IPO. Lehman is using the difficulties of the past 9 months as a launching off point to create a company with a lower risk profile even at the expense of returns and growth. The question is the degree that other brokers will also deleverage. Net leverage (basically assets divided by equity, with nuances firm-byfirm) is 20x at Merrill Lynch (Year-end 2007) (MER, Hold rated, $46.00), 19x at Goldman Sachs (GS, Buy rated, $174.14), 16x at Morgan Stanley (MS, Hold rated, $46.10), and 15x at Lehman or 13.5x after the new capital, going down to 12x.	2

Exhibit 20
Analyst Quotes Relating to Asset Quality[1]
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4/14/08	Bernstein	After the recent equity issuance moved LEH most of the way toward its deleveraging goal, the next step is to aggressively "de-risk" the balance sheet by cutting a targeted $55bn in riskier, less liquid assets (mortgages, leveraged and investment grade corporate loans, high yield inventory, and private equity) all by the end of 2Q08. While this may involve some further near-term "hits" (and why we are cutting our 2Q08 EPS estimate – see below), we believe it is bullish for the stock given that: 1) it gives us more confidence in our estimates for 2H08 and 2009 since it reduces writedown risk going forward; and 2) the sizable reduction in riskier less liquid assets should help allay balance sheet fears.	2
6/9/08	Fox-Pitt, Kelton	Lehman sold $20 bil. of problem assets, and reportedly not just the easiest to move (as many bears had assumed), leaving another $65 bil. Time will tell whether these (ditto for peers) will need further write-downs, should mkts deteriorate more or sales come in lower.	
6/9/08	Bank of America	While LEH reduced gross leverage from 32x to 25x, increased their liquidity pool from $34B to $45B, and drove reductions across most troubled asset classes (and reduced total assets by $130B or 17%), we await more details on total remaining troubled assets in aggregate as well as a L-III or illiquid asset update to help answer the question of whether $6B in incremental capital raise is sufficient.	1
6/9/08	UBS	Timing & magnitude put credibility in question & some will likely remain skeptical on adequacy of marks (not enough), remaining exposures (still big as 80% still remain) and opacity of a few key exposures (like where Archstone or Alt-A are marked).	1
6/10/08	Credit Suisse	We appreciate the accomplishment of the de-leveraging and the 15-20% reduction in its real estate inventories, but the retained exposure remains too large in so uncertain a macroeconomic environment. We are reducing our rating to Neutral with a belief that the shares are unlikely to outperform until these inventories are more substantially reduced.	1
6/10/08	Credit Suisse	The retained risk of real estate concentration… at the end of 1Q08, Lehman had $81Bn of combined commercial and residential real estate and real estate investments. That total has been brought down closer to $65Bn at the end of 2Q—it's still too much at 2x Lehman's pro forma shareholders' equity. Rationalization is taking time; price risk remains and we can't expect hedges to be perfect.	1
6/10/08	Credit Suisse	The risk to downgrading today… Lehman's shares are down 55% year to date, having underperformed peers and now trading at just 0.9x pro forma book value (1.1x tangible book). Upside to our revised target price is 20-25%. The single biggest driver of incremental upside would come from success in materially reducing real estate and related inventory at currently marked levels (i.e., without incremental losses) thereby restoring credibility and reducing the firm's risk profile.	2
6/10/08	Credit Suisse	The single biggest driver of incremental upside would come from success in materially reducing real estate and related inventory at currently marked levels (i.e., without incremental losses) thereby restoring credibility and reducing the firm's risk profile.	2

Exhibit 20
Analyst Quotes Relating to Asset Quality[1]
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Date	Report Issuer	Quote	Page
6/10/08	Credit Suisse	We appreciate the lower leverage levels, and from here, we expect the firm to be willing to take more risk on its trading desks. However… with $65 billion in remaining real estate exposure, the firm's ability to be "opportunistic" in the most distressed arena is likely to be limited.	5
6/10/08	UBS	While LEH has taken gross write-downs of $17B since the beginning of fiscal 2007, given ongoing concerns around the pricing of Level 3 assets and the fact that LEH has not disclosed where certain large, illiquid positions (such as Archstone or SunCal) or categories of assets (like Alt-A or commercial mortgages) are marked, investors continue to assume the that there is something to hide.	1
6/10/08	UBS	As such, we think the weight on the stock right now stems from questions around the adequacy of Lehman's marks on its remaining $65 billion of risky assets. We think the shorts continue to question whether large illiquid positions such as Archstone or SunCal are marked tight enough and also doubt marks on broad asset classes like Alt-A mortgages, commercial mortgages and real estate owned (at this point, if numbers are not given, many assume that there is something to hide). From where we sit, until Lehman is willing to lift the veil a bit on these marks, credibility will remain an issue and the multiple will remain pressured.	2
6/11/08	HSBC[2]	We believe it is a step in the right direction, but let's be clear: we believe the firm sold what it could at a level it could, but what's left in those categories is still sizable, USD108bn by our calculation, or more than three times the firm's newly enhanced equity base. And we still do not really know much about what is in that USD108bn, other than to say that these assets are largely out of favor and economically sensitive, neither of which is comforting.	2
6/11/08	Merrill Lynch	We believe, despite criticism, that LEH is trying hard to reflect appropriate valuations by applying recent realized prices, but it's difficult to know how representative recent sales are of overall portfolio; and perhaps more critically, real-estate assets and mortgage-payment delinquencies remain under intense pressure, meaning considerable potential for further marks.	1
6/16/08	JPMorgan	The adequacy of write-downs and the outlook for the next few quarters remain unclear. …we see…large exposure to res. and comm. mortgages, and high customer defections as weighing on Lehman's stock price … The recent decline in (CFTC client) assets likely signals customer withdrawals and could be an indication of waning customer confidence…	
6/16/08	Wachovia	The deleveraging process was in full swing in the quarter as LEH sold $147bn in gross assets or $70bn on a net basis. The asset sales brought gross leverage down to 24.3x versus 31.7x in Q1 and net leverage down to 12.0x from 15.4x. Pro forma for the capital raise, gross leverage is 20x and net leverage is 10x. Assets sold were largely broad-based: across asset-classes and vintages, irrespective of liquidity, and throughout the entire quarter. Residential mortgage asset sales totaled $11bn, while purchases were $6bn. On the commercial side, $8bn in assets were sold, which consisted of $2bn in senior loans, $2bn in mezzanine loans, $2.9bn in securities, and $1bn in equity.	

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6/16/08	JPMorgan	**Exposure to real estate material.** Lehman continues to have significant exposure to residential and commercial mortgages, totaling $61bn. The exposure is down $14bn from last quarter, but still accounts for 9.5% of total assets and 18.6% of net assets, consistent with levels reported last quarter.	
6/17/08	Buckingham	While we believe domestic residential mortgage and leveraged loan exposures are down to much more manageable levels, outsized commercial real estate exposures remain the most significant risk in our view and remain an area of focus for investors.	3
7/11/08	Oppenheimer	For 2Q08, LEH reported a Tier 1 Capital Ratio of 10.7% and Total Capital Ratio was 16.1%. Lehman's Tier 1 Capital was $23.2 billion and Total Allowable Capital was $34.8 billion. Total Risk-Weighted Assets was $216.6 billion of which market risk, credit risk, and operational risk accounted for 43%, 42%, and 15% of the total. Level 3 assets were $41.3 billion, down from $42.5 billion in 1Q08. Level 3 assets represent 6.5% of total assets and 16.6% of total assets at fair value. The decrease in level 3 assets was due to a decline in MBS and ABS partially offset by an increase in corporate debt and equities.	1
7/23/08	UBS	In our view, the main issues at this point are Lehman's remaining 'problem' asset exposures, the related fears over Lehman's client franchise (which get amplified by the drop & volatility in its stock), the less than favorable macro backdrop, and lingering concerns over the future structure of the industry (and where Lehman fits in)…. As great as Lehman's track record is, the company got caught owning too many illiquid assets relative to the size of its equity base when the music stopped…. Given our overall negative view on the credit, economic and capital markets backdrop, we do think that Lehman's remaining 'problem' exposures ($83 billion across residential and commercial mortgage, real estate, other ABS, and leveraged loans) will continue to weigh on the shares and likely lead to further write-downs as the credit crisis drags on.	4
8/14/08	Bank of America	Of LEH's $64B (see below) in risk exposures remaining across resi-mortgage, CRE & LBOs, mgmt expects to take a linear path to reducing exposures vs. one-time bulk sales to minimize price impact. For q3, mgmt targets a 20%+ reduction w/a focus on reducing investor & client 'crisis of confidence' issues impacting LEH's client-facing franchise.	3
8/18/08	JPMorgan	LEH continues to have significant exposure to mortgages and ABS, totaling $61B. We think LEH might write-down ~$4B this quarter given the deterioration in resi and comm. related indices (~10-20% and ~5-10%, respectively) and our belief that it has been selling assets especially in its comm. mortgage portfolio.	1

Exhibit 20
Analyst Quotes Relating to Asset Quality[1]
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Date	Report Issuer	Quote	Page
8/18/08	Morningstar	Currently, Lehman still maintains large positions in commercial and residential mortgagerelated securities on its balance sheet and the value of these securities is a concern to many market participants as the real estate market continues to struggle. Credit spreads have widened again since May, and Lehman will likely have to take another mark against these securities at the end of the third quarter.	1, 3
8/28/08	Ladenburg	First, it is believed that Lehman must more aggressively write down its commercial real estate holdings; its residual holdings in residential real estate offerings; and its hedge fund investments	1
9/5/08	Deutsche Bank	Lehman seems to need more aggressive action to reduce its balance sheet risk to preserve its single A credit rating and assure customers to maintain its client business. To that end, we believe Lehman needs to more aggressively reduce its exposure in its $40B of commercial real estate and $25B of residential real estate assets. As such, we believe the result is likely additional write-downs from what we expected before. The result would be greater near-term earnings pain and possibly less earnings power but with the benefit of a lower risk balance sheet that should help put issues of balance sheet risk behind it. To a degree, our thought is that perceptions of Lehman's health have now impacted reality. The markets are over one year into the credit crisis and market participants are still asking questions about Lehman's viability.	2
9/9/08	BMO Capital Markets[2]	We remain concerned about Lehman's exposure to residential and commercial mortgages, its risk management (given the magnitude of the losses in the second quarter), limited financial flexibility, and less diversified business profile compared to its larger peers.	1
9/9/08	Fox-Pitt, Kelton	Mgmt Probably Needs To Rid Itself Of All Problem Mortgage Assets At Once… Without Mortgage, Lehman's Balance Sheet Would Be the Cleanest Among Peers.	3
9/10/08	Credit Suisse	There remains significant execution risk, most notably with respect to the ultimate value of the commercial real estate being spun-off and with that, future capital needs.	1
9/10/08	Sandler O'Neill Partners	Problem asset concentrations are still too high and management's articulated plan to strengthen the balance sheet comes with a fair amount of execution risk. We are initially somewhat skeptical of LEH's ability to adequately capitalize REI Global.	1
9/11/08	BMO Capital Markets[2]	Lehman has actively reduced its exposure to residential mortgage-related assets; however, we continue to remain concerned over its exposure to commercial mortgages, possible franchise impairment and its less diversified business profile compared to its peers.	1
9/11/08	Bernstein	According to fixed income experts, the commercial real estate market is beginning to weaken and Lehman is still highly exposed to both residential and commercial mortgages.	2

Exhibit 20
Analyst Quotes Relating to Asset Quality[1]
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Date	Report Issuer	Quote	Page
9/11/08	Bank of America	While LEH has made solid progress in reducing risk exposures, sizable exposures remain and we remain concerned about the pro forma mix of common vs. preferred/hybrid equity which we estimate will be closer to 58/42 and hence implies LEH may need to raise an additional ~$6B of common equity suggesting adjusted tangible book value of closer to $12 per share, although this is before incremental markdowns (which we still see as a significant risk here) on CMBS/CRE assets as they are moved into the bad bank in q 1 '09, additional marks on the remaining $5B of CMBS/CRE Lehman will retain, & (post the BLK transaction, selling S4.7B of UK mortgages to a new BlackRock managed entity) the ~$13B ofRMBS they retain with a still heavy concentration of Alt-A and Subprime. All in Lehman post all the transactions announced today on a pro forma basis will have $29 billion in risk exposures vs. common tangible equity closer to $11-12 billion which is still too high a ratio to instill confidence that "the worst is behind us."	4

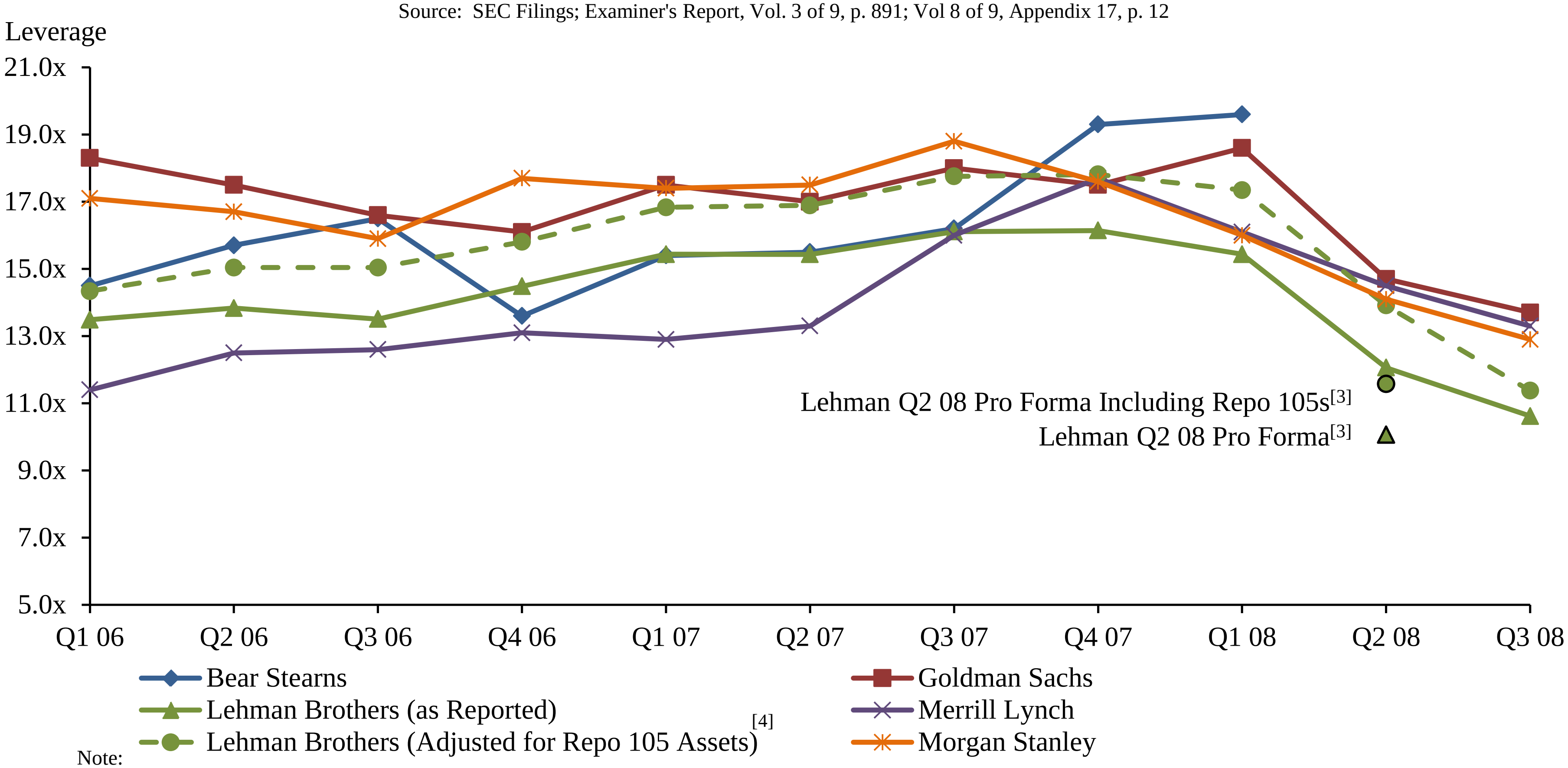
Source: Analyst Reports

Note:

[1] Analyst reports reviewed include fundamental equity and fixed income analyst reports on Lehman Brothers available from Thomson Research (formerly Investext) and Capital IQ. Included in the review are a few additional reports published between July 1, 2008 and September 15, 2008 and produced in support of the Expert Report of Gregg A. Jarrell filed February 3, 2012. Quotes are formatted as they appear in original reports.

[2] Fixed income analyst report.

Exhibit 21
Lehman Brothers and Peers
Net Leverage Ratio[1]
Fiscal Q1 2006 – Q3 2008[2]
Source: SEC Filings; Examiner's Report, Vol. 3 of 9, p. 891; Vol 8 of 9, Appendix 17, p. 12



Note:
[1] Net Leverage is calculated in accordance with each company's own methodology. Merrill Lynch reports both an Adjusted Tangible Leverage Ratio and an Adjusted Leverage Ratio. The Adjusted Leverage Ratio is plotted here since it is the only leverage ratio reported for all relevant time periods.
[2] The quarter ends for all companies except for Merrill Lynch are in February, May, August, and November. Merrill's quarter ends are conventional quarter ends plus or minus a few days.
[3] On June 12, 2008, Lehman Brothers issued $4 billion in common stock and $2 billion in preferred stock. The pro forma calculations conservatively assume that Lehman did not use the amount raised to pay down liabilities but kept it on the balance sheet and hence both total assets and total equity are assumed to increase by $6 billion. A review of the corporate action calendar of Lehman's peers did not reveal significant capital or equity raises in the month after Lehman's fiscal Q2 end.
[4] Consistent with the Examiner's Report, Lehman's net leverage ratio is adjusted by adding the total amount of Repo 105 assets to Lehman's net assets.

Exhibit 22
Analyst Quotes Relating to Leverage & Capital Adequacy [1]
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Date	Report Issuer	Quote	Page
3/15/07	Bernstein Research	In addition the firm confirmed that it had a "fair amount" of balance sheet exposure to the subprime mortgage market. They also disclosed a sharp increase in its balance sheet leverage and the firm took its VaR up. This is probably not the best way to calm the waters during a period of market stress.	1
4/11/07	Deutsche Bank	"**Leveraged to mortgage banking:** Lehman has one of the largest vertically-integrated mortgage operations. If there is a fallout in this segment beyond subprime, Lehman could feel the impact disproportionately."	6
6/27/07	Morningstar	Like all investment banks, Lehman is highly leveraged. Assets are approximately 25 times equity. Lehman uses subordinated debt with a payment deferral option to mitigate risk. The firm receives an A+ credit rating from Standard & Poor's.	3
7/10/07	Wachovia	Balance Sheet Metrics Slowly Improving: The net leverage ratio was 15.5X, up marginally from last quarter. Net securities inventory declined to 5.9x from 6.1x (net security inventory divided by common equity). NEW LEVEL 3 DISCLOSURE INDICATED MARKS TAKEN IN Q2. According to the 10-Q, LEH took an unrealized loss of $459 million in Q2 on LEVEL #3 MBS securities. This is consistent with management's comments that some mark to market adjustments were made in the second quarter. This is also encouraging because LEH still reported record Q2 results and a near record ROE. We suspect a good portion of mark adjustments have already been made and that the pending downgrades by S&P are already factored into LEH MBS inventory.	1
9/19/07	NAB Capital[2]	While mortgage originations are slowing, securitisation is slowing at a greater rate and as a result the company's leverage is tracking up at 30.2x (25.8x / 28.7x). We think leverage may go higher yet, though when credit market conditions do improve, this upward trend will stop.	1
9/19/07	UBS	[N]et adjusted leverage (up 10% to 16.0x) [was] bothersome.	2
9/19/07	Wachovia	STRONG LIQUIDITY POSITION. Increased leverage levels was another concerning factor in the quarter. Leverage loans and mortgage positions were partially responsible for the Company's assets climbing 8% sequentially to $656 billion. The firm saw its net leverage increase to 16x at the end of the period, up from 15.4x in 2Q07. However, the firm's liquidity position remains solid, in our view. Lehman increased its liquidly (sic) pool by $10 billion sequentially to $36 billion at the end of the period, which adequately positions the firm to fund its commitments and to cover cash outflows for a 12-month period. This leaves LEH with a record cash surplus. Further cushion is accessible in $50 billion of unencumbered collateral available to the holding company and an additional $50 billion in unencumbered collateral in their regulated banks and broker dealers.	3

Exhibit 22
Analyst Quotes Relating to Leverage & Capital Adequacy [1]
Aug 2006 – Sep 2008

Date	Report Issuer	Quote	Page
9/19/07	NAB Capital[2]	While mortgage originations are slowing, securitisation is slowing at a greater rate and as a result the company's leverage is tracking up at 30.2x (25.8x / 28.7x). We think leverage may go higher yet, though when credit market conditions do improve, this upward trend will stop.	1
11/2/07	Credit Suisse	Lehman remains willing to lend, but on materially different terms— much smaller amounts and with less leverage. Don't be surprised if Lehman cedes some market share here.	4
11/13/07	UBS	Lehman has not been a user of SIVs or conduits for financing itself, so we don't see any off balance sheet contingent exposures.	2
12/13/07	UBS	As a result, we believe LEH remains vulnerable to continued market instability, but lacks the capital base of its larger peers to sustain large impairments. However, this challenge is partially offset by LEH's sizeable liquidity position. At 4Q, parent company liquidity totaled $35bn, with an additional $50bn of liquidity via unencumbered assets.	1
12/13/07	UBS	We also are concerned by the fact that Lehman's balance sheet & net assets continue to grow, despite the environment being what it is. To be fair, Lehman's leverage ratio was flat from 3Q as equity/book continued to build, and we understand growing other areas of the business and partially buy the rationale of being able to pick up share by facilitating client flows as many competitors are hurting, but still, a rising balance sheet in the face of less liquid markets (Level 3 asses rose by roughly $6 billion in the quarter and represent 13% of inventory), wider credit spreads, higher volatility and less effective hedges doesn't leave us with a warm and fuzzy feeling.	2
12/13/07	Wachovia	LEVERAGE IS SLOWING. While the balance sheet is still growing, net leverage stayed flat. Sub-prime mortgage assets declined to $5.3 billion from $6.3 billion last quarter. Mortgage assets were $91 billion including $12 billion that are sold to third parties but included on the balance sheet. The remaining $71 billion is roughly ½ CMBS and ½ RMBS. LEH had gross losses of $3.5 billion offset by $2 billion in hedges, $320 million of realized gains, and FAS 157 benefits of $320 million.	2
12/14/07	NAB Capital[2]	From a credit metric perspective and in the current market environment, Lehman's has shown stunning stability. As mentioned above, quarter on quarter profits and eps were unchanged, as was the company's pre-tax margin at 28.0%, its compensation ratio at 49.3% and its net leverage ratio at 16.1x.	1

Exhibit 22
Analyst Quotes Relating to Leverage & Capital Adequacy [1]
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Date	Report Issuer	Quote	Page
12/17/07	Morningstar	Like all investment banks, Lehman is highly leveraged. Assets are approximately 30 times equity. Lehman uses subordinated debt with a payment deferral option to mitigate risk. The firm receives an A+ credit rating from Standard & Poor's.	3
1/15/08	Wachovia	LEH is more focused on balance sheet flexibility and liquidity. Capital allocation is critical at this juncture, in our view, since many LEH businesses see opportunities given the market dislocation. LEH does not need to raise equity like some of its competition.	1
3/18/08	Punk Ziegel & Co.	Bear only began to lengthen its maturities when it became troubled. Lehman has more equity and long-term debt as a percent of assets. Lehman has a larger proportion of its assets in productive places. Lehman is not Bear Stearns by any measure. Further, the Federal Reserve has promised to provide whatever funding that may be required to keep primary dealers liquid. Thus, anyone attacking Lehman would have to be able to bankrupt the Fed to break Lehman. An attack on Lehman or any other primary dealer is an attack on the Fed. To assume that Lehman would fail means that one assumes the Fed will not or cannot honor its commitments. This is a bad bet to make.	1
3/19/08	Buckingham	Liquidity also remained strong, with the company’s liquidity pool and unencumbered assets remaining flat with 4Q levels despite a $4 billion pay down of its commercial paper program. We also received much more detailed information on LEH’s mortgage book, with total residential and commercial mortgage exposure falling 11% sequentially (although still sizable). And lastly, net leverage was brought down to 15.4x vs. 16.1x in the previous two quarters.All in, we believe the better than expected revenues, despite a challenging quarter, as well as the incrementally positive added disclosures surrounding the balance sheet all helped the stock recover meaningfully.	2
3/19/08	Morningstar	Like all investment banks, Lehman is highly leveraged. Assets are about 30 times equity. Investment banks' dependence on repurchase agreements to fund assets became a concern after the failure of Bear Stearns. Lehman has $215 billion in repo financing; however, it mitigated concerns after it disclosed that it has $64 billion in unencumbered assets it could use to support this financing.	3
3/19/08	Punk Ziegel & Co.	She [CFO Erin Callan] spent some time reviewing the state of the company’s capital. Lehman eliminates collateralized lending agreements when it makes this calculation, which is more or less industry practice. When viewed from this vantage point, the company’s asset to equity ratio came down.	1
3/19/08	UBS	Still, while we think mgmt did a good job of putting the liquidity issue to bed, LEH still has considerable mortgage exposure (~$63 bn), deleveraging is likely to continue & the overall economic and earnings environment remains challenging.	1

Exhibit 22
Analyst Quotes Relating to Leverage & Capital Adequacy [1]
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3/19/08	UBS	However, while it’s great to see some stability (especially on the liquidity front), don’t get too excited just yet, as the charges were there and may continue for a while given Lehman’s extensive exposures, a continued weak housing market and still very difficult operating environment. Additionally, we still have concerns that the de-leveraging in the system will continue and that multiples among the brokers will be constrained by the earnings environment, as well as questions around the optimal leverage, liquidity and potential returns of the model going forward.	2
3/19/08	UBS	In addition, we think management did a very good job of putting the liquidity question to bed by pointing out the benefits of the recently announced Fed repo facility for primary dealers (which Lehman has not yet tapped) and also highlighting Lehman’s sizable liquidity pool ($30 billion) and unencumbered capital ($64 billion at the parent company and $99 billion at Lehman’s regulated entities – though, mind you, plenty of this is mortgagerelated). Finally, we think Lehman’s capital position is further enhanced by the fact that they have already completed more than two-thirds of their 2008 funding needs, using a combination of medium-term notes (the average tenor of Lehman’s long-term borrowings is now 7 years), non-U.S. issues, structured notes, and preferreds.	2
3/19/08	UBS	Looking ahead, as good as Lehman has been at managing its exposures, we still have some concerns about the shear size and composition of the $31.8 billion of residential mortgage position ($14.8 billion of mostly Alt-A) and $31 billion of commercial mortgage position (Lehman sold $5 billion worth post the end of the quarter) on their books at a time when it seems that the illiquidity and deleveraging trends will continue in the face of a weakening economy.	3
3/27/08	Morningstar	Continued vague concerns regarding Lehman's liquidity position have persisted on and off since the downfall of Bear Stearns almost two weeks ago. Lehman appears fundamentally strong today and reported respectable first-quarter results given the current turmoil--nevertheless concerns refuse to dissipate. However, we currently rate all the investment banks as speculative due to the distress in the markets. Investors uncomfortable with risk should avoid Lehman's (and its peers') shares. We will not completely rule out the possibility of another bank failure; however, Lehman's balance sheet does not appear to us to be weak. Moreover, the Federal Reserve's creation of the primary credit dealer facility has provided a backup lending source mitigating the possibility of another collapse.	1
3/31/08	Oppenheimer	Lehman announced after the close that it would raise $3 billion in convertible securities, or 14% dilutive capital. While we believe this to be a necessary evil for Lehman Brothers, we believe it will mark only one of many significant capital fund raises for financial institutions over the course of 2008. We note, last week, the regulators advised Fannie Mae and Freddie Mac to raise at lease $20 billion in additional capital.	1

Exhibit 22
Analyst Quotes Relating to Leverage & Capital Adequacy [1]
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3/31/08	Oppenheimer	As we wrote last week, capital ratios will be of primary focus for financial institutions during the next month of bank 1Q08 reporting. Lehman took the advice it has been giving to its clients for over the past five months in going to the markets well ahead of what it believes to be a barn rush of capital raising throughout the remainder of the year. Thus, while this capital raise is expensive on a near term historical basis, LEH and we believe it will only get progressively more expensive to raise capital as the year evolves.	1
3/31/08	Oppenheimer	Another rude awakening will likely be the need to refocus on capital ratios of the financials as net losses wipe out a material portion of new equity raised in the past three months.	3
4/1/08	Buckingham	- LEH is raising $4.0 billion of convertible preferred stock. - The pros: 1) LEH's net leverage ratio falls to 13.3x from 15.4x, immediately getting LEH to its targeted ratio and well below peers … - Overall, we are mixed on the transaction given our view that it wasn't needed (and management reinforced that view by stating it was more for perception than need). That said, it does help improve confidence in the firm and gives LEH some extra powder to invest.	1
4/1/08	Buckingham	LEH's net leverage ratio of 15.4x in 1Q08 was not out of line with its peer group (actually slightly lower), and the company seemed to be making progress in lowering net leverage (down from 16.1x in 4Q). Moreover, despite larger than average exposure to commercial and residential mortgages, LEH's risk management performance has been strong, with solidly profitable quarters over the past nine months. In our view, further reductions in illiquid assets and growth in retained earnings should have enabled LEH to reach its target of lowering its leverage ratio by 1-2 turns over the next 6-12 months.	2
4/1/08	Buckingham	Management's perspective, though, is that the stock has been hurt more than most peers in recent months over perception of leverage, its smaller scale, and its larger-than-peer exposure to mortgage assets. In fact, management has stated that many investors in recent meetings have prodded LEH on the question of leverage, and undoubtedly counterparties have as well. In addition, a number of large domestic shareholders have expressed an interest in participating in any capital raise, making it a relatively easy exercise. So bottom line, LEH felt it could reach its leverage goal much more quickly via the capital raise, enhance confidence in the firm given the quality of the participating investors (reportedly all domestic, large, and long-only accounts), and give the company some extra "powder" to take advantage of investment opportunities that arise in the current environment.	2

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4/1/08	Citi	We estimate that the capital raise will reduce gross leverage by 3 to 4 times and net leverage by almost 2 times (down to as low as 13.5x), resulting in the lowest net leverage ratio among peers.	1
4/1/08	Citi	In our view, management made the decision to protect the downside risk that could result from a loss of confidence driven by perception issues. The new capital raise should put the perception issues to rest and the focus will now be on the upside potential inherent in the franchise and the compelling valuation. ... We continue to see up to 70% upside in LEH shares and any potential concern around the capital and liquidity position of the franchise should be put to rest.	1
4/1/08	Deutsche Bank	We don't like the idea of earnings dilution by 1/10th forever, but the stock, in our opinion, has been trading in the past week on fears related to liquidity/capital more than EPS, in our view, and this new issue should help alleviate these concerns.	1
4/1/08	Deutsche Bank	We still expect Lehman to de-lever its balance sheet. However, to us, the new capital of $3B (vs. book value of $23B), can be viewed as alleviating the need for any such deleveraging urgently. Our estimates do NOT assume earnings on the new $3B of capital raised which, if achieved, could mean that we need to increase our estimates by perhaps 20-25 cents (assuming a 6%-7% pre-tax return). LEH's move today hurts earnings but helps to convey a message that it will take proactive measures to help ensure that it controls its own destiny relative to a downward spiral scenario that involves rumors leading to illiquidity.	1
4/1/08	Deutsche Bank	The move helps Lehman to show that it can raise large amounts of capital in a matter of hours, which can help alleviate concerns about capital and liquidity.	1
4/1/08	JPMorgan	We believe the capital infusion therefore is a relief in anticipation of further writedowns.	1
4/1/08	Morningstar	Lehman Brothers announced it is planning to raise $3.45 billion in new capital to strengthen its balance sheet. We note that unlike many of the capital-raising efforts by Lehman's peers, such as Morgan Stanley and Merrill Lynch, Lehman's new capital will not be used to fill a gap created by write-downs large enough to result in a quarterly loss. ... This new capital will bolster Lehman's balance sheet and possibly reduce some of the vague concerns that have persisted about Lehman's financial health since the downfall of Bear Stearns.	1
4/1/08	Punk Ziegel & Co.	Lehman remains under significant stress as investors question its long-term viability. The short position on the stock is currently 47 million shares, or 8.4% of the outstanding.The company's balance sheet continues to raise concerns.	1

Exhibit 22
Analyst Quotes Relating to Leverage & Capital Adequacy [1]
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4/1/08	Punk Ziegel & Co.	All in all, the picture is one of concern. It is for this reason that Lehman is committed to building its long-term capital base. In so doing the firm hopes to quell fears of its viability. Moreover, the recent proposals by Treasury Secretary Paulson make it evident that the company, along with all brokers, may be forced to delever their balance sheets. The company has built up a sizable cash hoard to meet short-term needs. It has an estimated $31 billion in cash and another $65 billion in short-term unencumbered assets. In theory this means that Lehman can quickly access almost $100 billion in cash to meet market demands. In sum, it seems evident that Lehman is being pushed hard by the markets to prove its balance sheet is safe. By raising additional capital and liquefying the balance sheet, the company hopes to put these fears to rest.	1
4/1/08	UBS	While the issuance (at book) likely raises concerns for some, it should also provide stability as we think EPS dilution is a small price to pay to bolster capital base & liquidity and help keep perception issues at bay. - Impact to EPS, ROE, Book, Gross Leverage & Net Leverage We estimate ~10% EPS dilution (depending on deal size & use of proceeds), a small increase to ROCE, no real change to book value per share and reductions to the net leveraged ratio of 110-150 basis points (was 15.4x at qtr-end) & 340-430 bps decrease to the gross leverage ratio (was 31.7x at quarter end).	1
4/1/08	UBS	- Reasonable Insurance Policy To Take On At This Valuation While some may feel there could be larger write-downs or further liquidity pressure on the way, we actually think Lehman's CDS spreads could tighten given the capital boost and some pressures in the repo market could abate, even though many of Lehman's counterparties are in the process of de-leveraging themselves. Talk about having some dry powder for investment opportunities may be premature, in our view. - Valuation: Neutral, But Floor Should Be Forming Stock could be putting in a floor here around book as LEH & the Fed help improve the capital, liquidity & leverage issues.	1
4/1/08	Wachovia	ISSUANCE EASES LIQUIDITY FEARS. LEH has been trading on liquidity fears, in our view, not earnings. With the additional $4bn, we believe fears over liquidity will continue to be reduced. On a pro-forma basis, LEH's adjusted leverage ratio would decline to 13.5x, from 15.4x last quarter. The 13.5x would be the lowest since Q1 2006.	1
4/1/08	Wachovia	AHEAD OF THE CURVE. The offering could also be a response to future regulatory actions. We believe brokers will need to delever in the face of a more stringent regulatory regime in the future. With the capital raise that qualifies for Tier 1 capital, we believe LEH is ahead of the curve, in this respect.	1

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4/9/08	Deutsche Bank	Lehman intends to continue to "de-risk" (incl. sales of $15B of its $75B of mrtg assets), de-lever (by 20% total), and make a stronger balance sheet that generates superior riskadjusted returns.	1
4/9/08	Deutsche Bank	Lehman feels a need to continue to delever and derisk, resulting in a reduction of its net leverage ratio from 15x at the end of 4Q07 to likely 12x, or a full 20% deleveraging. This will partly get done by reducing mortgage assets by $15B (of a total of $75B). The result could be a reduction in the long-term ROE from 20%-25% toward 15%, or closer to the average since its 1993 IPO. Lehman is using the difficulties of the past 9 months as a launching off point to create a company with a lower risk profile even at the expense of returns and growth. The question is the degree that other brokers will also deleverage. Net leverage (basically assets divided by equity, with nuances firm-byfirm) is 20x at Merrill Lynch (Year-end 2007) (MER, Hold rated, $46.00), 19x at Goldman Sachs (GS, Buy rated, $174.14), 16x at Morgan Stanley (MS, Hold rated, $46.10), and 15x at Lehman or 13.5x after the new capital, going down to 12x.	2
4/9/08	Deutsche Bank	Long-term, the lingering question is whether Lehman will get disadvantaged by a strategy that uses its balance sheet less, at least versus larger conglomerates.	3
4/9/08	Wachovia	SOLID FROM A RISK-BASED CAPITAL STANDPOINT. Management is comfortable with their leverage on a risk-based capital standpoint. LEH noted that its Tier 1 ratio is well into double digits and its total capital ratio is in the mid-teens. Both measures compare favorably to well-capitalized banks, according to management. ... $4B OFFERING WAS AN ENDORSEMENT OF LEH. ... Management noted that capital offering both helped to quell negative investor sentiment and accelerate the deleveraging exercise. Management is anticipating regulatory tightening of leverage. ... LEH is close to book value, has reduced leverage to 2005 levels, and has incremental capital. The reality is it is probably in better shape from a capital/leverage standpoint than the rest of the industry, with the exception of GS. With the capital raise that qualifies for Tier 1 capital, we believe LEH is ahead of the curve, in this respect.	1
4/9/08	Wachovia	LEH is focused on reducing leverage even after the recent $4bn convertible preferred offering. Gross and net leverage was 27.4x and 13.4x after the offering and should be 24x and 12x by the end of the quarter. LEH expects the selling will normalize after two quarters or so ... In a similar vein, management is comfortable with their leverage on a risk-based capital standpoint ... The deleveraging initiative coincides with changes in LEH's business model. In light of the difficult operating environment, hurdle rates are higher, and LEH will be exiting lower yielding assets ... The wider spread premium should partially offset the lower level of assets ... Management is anticipating regulatory tightening of leverage.	2

Exhibit 22
Analyst Quotes Relating to Leverage & Capital Adequacy [1]
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Date	Report Issuer	Quote	Page
4/9/08	Wachovia	LEH is close to book value, has reduced leverage to 2005 levels, and has incremental capital. The reality is it is probably in better shape from a capital/leverage standpoint than the rest of the industry with the exception of GS.	3
4/14/08	Buckingham	Despite the near-term impact, we believe this aggressive reduction of unproductive assets is bullish for the stock in a number of ways: 1) LEH in particular has been trading down on worries over the quality of its balance sheet, and this aggressive “de-risking” should help LEH emerge after 2Q08 with a much cleaner, less risky balance sheet; 2) this move also finishes off LEH’s actions toward getting leverage down, and we estimate LEH will end 2Q08 with net leverage at 12x and gross leverage at 23x – both the lowest levels for LEH since going public in 1994;	1
4/14/08	Buckingham	After Deleveraging with Equity Issuance, Some Further “De-Risking”. Perhaps the most surprising commentary coming out of the meeting was how aggressively and quickly LEH plans to “de-risk” its balance sheet. While the $4 billion in preferred equity issuance quickly got the company down close to its net leverage target of 12x-13x (13.3x pro forma in 1Q08), management plans to shed roughly $55 billion in riskier and less liquid assets in 2Q08. ... After enduring the pain of holding many of these assets over the past three quarters, one might question the idea of selling them off near a bottom and foregoing the upside in any recovery, particularly when considering LEH’s strong risk management track record. Yet given the uncertainty of the timing of any recovery and the unrelenting scrutiny by investors and counterparties around LEH’s above average exposure to mortgage assets, this “derisking” of the balance sheet seems to us to be the right approach to take.	3
4/14/08	Buckingham	But getting back to LEH’s balance sheet plans, as we noted above, the company plans to sell $55 billion of risky and less liquid assets. Moreover, after some ballooning of the balance sheet in 1Q08, LEH expects to cut another $65 billion out of the balance sheet by shedding some minimally profitable “matched book” and carry trade assets. In total, this should reduce the balance sheet by a total of $120 billion. ... These actions should drive LEH’s leverage ratios down further from the deleveraging associated with the $4 billion equity raise. For example, considering the equity raise, net leverage and gross leverage fell to 13.3x and 27.3x, respectively, on a pro forma basis as of 1Q08. However, considering LEH’s plans to sell $55 billion of risky assets and another $65 billion of other low margin assets, we anticipate net leverage will fall below 12.0x and gross leverage will fall below 24x.	3
4/14/08	Buckingham	This will be meaningfully below its competitors, where net leverage remains at 16x+ at GS, MS, and MER. Given LEH’s status as the smallest remaining player among the stand alone broker/dealers, management believes it needs to be the most conservative with respect to leverage in the industry, and these actions certainly put them in that position. It is also important to point out that as the brokers rapidly approach the reporting of Tier 1 ratios in accordance with Basel II, LEH is expected to have a Tier 1 ratio that is well into the double digits and well ahead of most universal banks.	4

Exhibit 22
Analyst Quotes Relating to Leverage & Capital Adequacy [1]
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4/14/08	Buckingham	Some would be quick to point out that this is somewhat backward looking, with deleveraging yet to come in 2Q08. Well, if we look to the last time the company's leverage was at its lowest, profitability was quite high. For example, since 1995 the lowest net and gross leverage ratios LEH has achieved was in 2005 at 13.6x and 24.4x, respectively. These are relatively similar levels to LEH's current 2Q08 targets. Yet despite these leverage levels, LEH achieved an ROE of 22% in 2005. We would also note that the vast majority of the deleveraging is concentrated in fixed income trading (FICC).	5
4/22/08	Oppenheimer	The company has been cognizant of the market's concerns regarding Lehman's liquidity situation, balance sheet, and profitability and has managed its balance sheet accordingly. Callan highlighted the capital raise of $4 billion of 7.25% Non-Cumulative Perpetual Convertible Preferred Stock as a testament to investors' confidence in Lehman's franchise.Callan re-iterated that the company's target adjusted leverage ratio for delevering was 12x. Despite the fact that recent capital raises have brought the company closer to the target leverage ratio, it will continue to focus on de-risking by selling illiquid assets. In fact, management has set specific levels that exposures to illiquid assets should be at by the end of 2Q08. By the end of 2Q08, LEH plans to reduce exposures to commercial mortgages to $31 billion (down from $36.1 billion as of 1Q08) and residential mortgages to $26 billion (down from $31.8 billion as-of 1Q08). In addition, the company plans to reduce ABS exposures by a few billion dollars.	1
4/30/08	Citi	- Targeting leverage ratios of about 12x-net and 25x-gross. We estimate that the asset base will decline to the $720b range (down $65b vs 1Q08). We expect the decline to be driven by about $25b related to shedding mortgage & levg lending assets and about $40b related to shrinking matched-book positions. - High-teens ROEs are achievable (over-the-cycle). Based on analyzing the historical growth in ROE and deconstructing the components that drove the higher ROEs, we conclude that high-teens ROEs are achievable despite the deleveraging. Only 20% of the 550bps of ROE growth since '04 was driven by higher leverage. Deconstructing the ROE over the 2004-2007 timeframe and holding the other factors constant (except for substituting a lower 12x leverage ratio) still results in an average 18% ROE (vs the average 21% reported ROE).	1
4/30/08	Citi	An offset to lower leverage will be higher revenue yields on assets (ROA). We estimate that a 1x reduction in leverage is completely neutralized by a 25bps higher ROA (in terms of ROE impact). Our analysis shows that if Lehman can generate 3-4% ROAs (vs 2.6% avg over the last yr), the franchise can generate high-teens ROEs (despite both lower leverage and lower margins).	1

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4/30/08	Citi	We recently met with Dick Fuld (CEO) and Erin Callan (CFO). Our views following the meeting includes: 1) The franchise has a healthy liquidity position that has only been enhanced by recent Fed actions, 2) most of the deleveraging will be complete over the next quarter or so ...	3
4/30/08	Citi	Targeting Leverage Ratios of 12x-Net and 25x-Gross Range Tail end of de-leveraging to be complete over the next 2 quarters, and we expect that leverage ratios will trough in the 25x gross & 12x net range...The first step of de-leveraging was the $4b convertible preferred equity raise (lowered the leverage ratios 200-400bps). In Figure 1 we show that the net and gross leverage will decline 350bps and 700bps, respectively, vs the 1Q08 balance sheet if the target ratios are achieved. We expect that the next steps will be to bring down the asset base further, driven by 1) reducing concentrations in mortgage and leverage lending-related assets, and 2) shrinking parts of the low-yielding matched-book. While there are different definitions of what actually gets backed out of assets to calculate the net leverage ratio across firms, we use Lehman's leverage calculation since we are not comparing across companies.	3
4/30/08	Credit Suisse	Risk appetite meaningfully reduced. Lehman's deleveraging process will reduce balance sheet exposures most notably in the fixed income business—real estate first; leveraged loans right behind that. Does this automatically translate to lower ROEs—not necessarily. Pricing, volumes and business mix shifts should support returns.	1
4/30/08	Credit Suisse	Lehman, of late, has been very clear in its intention to delever its balance sheet with the goal of coming down to 12x adjusted net (based on Lehman's definition of net leverage, which was 15x at the end of 1Q08 as per the 10Q) and 25x gross leverage (32x at its peak at 1Q08). Fixed income will be the biggest contributor to this decline, with a deemphasis/ near exit of the residential mortgage origination business. Broadly speaking, with higher capital charges levied against balance-sheet-using, illiquid or non-easily finance-able positions Lehman expects to meet its target by discouraging trafficking in and warehousing of such assets. Aside from strengthening the balance sheet and putting Lehman in a position with flexibility to be opportunistic, capital charges are meant to change behavior at the margin, optimizing assets and their revenue intensity.	5
4/30/08	Credit Suisse	While most have quickly concluded that deleveraging will lead to lower returns, we do not take that as a given. Refer back to Exhibit 9 which statistically refutes that conclusion. Then, consider the positives of higher trading velocity/asset turnover, a mix shift to derivatives, and the elimination of the marginal trade. If this migration happens—which is what deleveraging and a higher cost of capital are meant to encourage—Lehman should be able to maintain respectable returns. Risks include market share loss—if Lehman leads in the deleveraging process will it lose clients in the process?	6

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5/5/08	Deutsche Bank	Our meeting gave a sobering reminder that, although the worst of the credit crises may be behind and the rate of decline may be slowing, times may be tough for the economy (consumer pressure, mortgage resets, bond market signals), industry ("U" shaped recovery vs. a "V"), and the company (on track but still working its way toward deleveraging and de-risking).	1
5/5/08	Deutsche Bank	For the industry, the recovery might look more like a "U" than a "V"; the new environment with higher liquidity and lower leverage comes at a cost; and a turnaround is not likely in the next couple quarters … For Lehman, while on track with its deleveraging and derisking, the process is still expected to continue through year-end at a time when, in our view, hedging has been made tougher and past gains on its own debt can become losses given spread rallying.	2
5/5/08	Deutsche Bank	In other words, the meeting was a sobering reminder that for all the progress over two months to get past solvency concerns, revenue issues remain.	2
5/5/08	Deutsche Bank	If nothing else, Lehman's positioning of its general risk level combined with extra actions to protect its liquidity should help put to rest concerns about its survivability. Nevertheless, this is where liquidity and equity risk help to determine revenue risk, especially to the degree that customers gain additional assurance that Lehman will stay around. Long-term, the lingering question is whether Lehman will get disadvantaged by a strategy that uses its balance sheet less, at least versus larger conglomerates.	4
5/8/08	UBS	Mgmt remains intent on trimming gross leverage to 25x and net leverage to 12x by the end of 2Q and is committed to selling problem assets to improve the overall risk profile.Intense Focus on Improving the Balance Sheet. While the $4 billion convertible preferred issuance in March brought Lehman's net leverage down to 13.4x, management remains committed to selling down its illiquid assets and affirmed its goal to have net leverage down to 12x by the end of 2Q.Given that LEH will be operating with less leverage going forward, they will need to improve ROAs to achieve a healthy ROE.	1
5/8/08	UBS	Lehman's $4 billion convertible preferred issuance at the end of March was enacted to serve several purposes, but most importantly to give investors and counterparties a sense of confidence in Lehman's ability to manage through the difficult environment (though we think having roughly 2.5x their equity base in residential and commercial mortgage assets had something to do with it as well). Management's initial strategy to improve the balance sheet and quell market concerns was to reduce leverage and sell down troubled assets. They started down that path (selling $5 billion of CMBS in March), but realized that the pace was not fast enough as concerns about Lehman's financial strength persisted. Ultimately, management realized that they are in a business built on confidence, so they decided to make a statement with the capital raise.	2

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5/8/08	UBS	There was a conscious choice to have high-quality investors (domestic, long-only) to show that the smart money was betting on Lehman to withstand the downturn and prosper going forward. As a result, the market reacted favorably, Lehman's leverage came down, and management now spends much less time talking to counterparties and can focus on managing the businessPost the capital raise Lehman's Tier 1 ratio is "well in excess of their targets" and they are confident their ratio will compare favorably with broker peers. Keep in mind, however, that Tier 1 for the brokers is not apples-to-apples when comparing with commercial banks, as the brokers are operating under Basel II and the commercial banks are not.	2
5/8/08	UBS	While the capital raise brought Lehman's net leverage down to 13.4x, management remains committed to selling down its illiquid assets and affirmed its goal to have net leverage down to 12x and gross leverage down to 25x by the end of 2Q.	3
5/8/08	UBS	Finally, management was pretty candid in its assessment that a good portion of deleveraging is related to cyclical factors and not just a permanent shift on the broker business model, though this could depend on whether or not the Fed becomes the ultimate regulator for the brokers. For what it's worth, we think leverage ratios for Lehman could creep back up to 14-15x net or 27-28x gross in good times, but we would not expect to see these levels for a while.	3
5/8/08	UBS	In addition, Lehman expects to reduce its matched repo book by roughly $100 billion by the end of 2Q, from its current level of roughly $400 billion, as it is a low return business and uses up a meaningful amount of the firm's balance sheet. Management is confident that this $100 billion reduction will not have a negative impact on Lehman's client franchise. This reduction will also help lower gross leverage, though given the low-risk nature of this business we are not sure how much it improves the overall risk profile of Lehman's balance sheet.	4
5/21/08	Ladenburg	During the 2008, Lehman has been deleveraging its balance sheet. It has sold 2 preferreds for $5.9 billion. One was convertible into 80 million shares of common stock. The firm also raised $2 billion in a 7.50% subordinated debt offering. These offerings stabilized the company's balance sheet but they increased its funding cost and diluted future earnings.	1
5/21/08	Merrill Lynch	Assets are falling, or stagnating, as the firm limits leverage and prices capital internally on a more economic basis, meant to force sales of under-productive assets when possible.	3
6/3/08	Citi	We assume that the capital raised is common stock. We estimate that gross leverage would decline to 20- 22x range and net leverage in the 11-12x range. While in our view it is not clear that Lehman has to raise any additional capital, we estimate the impact on proforma net income and capital ratios.	1

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6/3/08	Fox-Pitt, Kelton	Media reports have Lehman mulling the possibility of raising new equity capital, purportedly due to its problem assets. In our view, there is no immediate need to raise equity capital, and the company would only take this painful step in an effort to cease the drumbeat of negative perceptions. A lesson learned from Bear Stearns, in the extreme, perceptions can matter more than reality. Bear had its warts, but didn't deserve its fate. Short-money must find a theme and Lehman is the next best choice, even if—in isolation—Lehman's financial condition is sound. We believe its "panic threat" level is nearing mid-March highs.	1
6/3/08	Morningstar	Even if it will not report a loss, Lehman may look to raise new capital to allay counterparties' fears about its capital position, which could hurt its core business.	1
6/4/08	Fox-Pitt, Kelton	We believe Lehman was successful in its goal to sell at least 15%, or $18 bil., of its $119 bil. of "less liquid" assets, helping its delivering process. This is in contrast to the bear case, which asserts that Lehman must raise equity to reduce leverage since problem assets purportedly have no buyers. We believe the incremental losses on these sales (on top of the prior cumulative markdowns from the original par) were about 10%. Assuming just the 15%, "less liquid" assets would fall to $101 bil. and total assets would be $772 bil. (assuming no "high-quality" asset sales). The gross asset write-downs of $1.8 bil. would translate to a $0.2 bil. net loss for 2Q08. If so, shareholders equity would end the quarter about $28.6 bil. (26.9x gross leverage), not counting "high-quality" asset sales.	1
6/4/08	Fox-Pitt, Kelton	- We continue to see no evidence that a push to "A" from "A+" is having any bearing on longer-dated business in the unregulated derivatives unit, and point out the option of the AAA-rated sub. Lehman merely needs to post $200 mil. of additional collateral this time around. - We also disagree with the concern that it must raise equity to avoid another notch downgrade in order to avoid the need to post $5+ bil. in additional collateral. We believe mgmt would rather tap into their liquidity pool—which by the way is now $5 bil. higher to $40 bil. per yesterday's disclosure—than massively dilute shareholders.	1
6/5/08	Deutsche Bank	Assuming that Lehman reduced its net leverage ratio from 15 to 12 from 1Q08 to 2Q08, an additional $4B in equity capital would further reduce leverage to 10x. ... Deleveraging Takes Pressure off to Raise as Much Capital: Management has been clear that it wants to delever by 20% and, we estimate, that this has almost been accomplished by the end of 2Q08. The bottom line is that this deleveraging takes the pressure off to raise capital. The CSE ratio (which may look like the banks Tier 1 ratio) should be over 10% at quarter-end, based on our estimates. (what's unknown is how this ratio will compare across brokers).	2

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6/9/08	Buckingham	Balance sheet and leverage reduced. LEH reduced its balance sheet by $130bn (or 17%) and reduced net assets by $60bn. Even despite the large loss, this drove net leverage down to 12.5x and gross leverage below 25x. After the announced capital raise of $4bn in common equity and $2bn in mandatory convertible preferred, we expect gross leverage on a pro forma basis to fall to close to 20x and net leverage to fall to 10x – by far the lowest in the industry (25%-35% lower than peers). However, management did state that it expects to put the new capital to work over time, and thus management's target for gross and net leverage are likely to remain at 25x and 12x, respectively.	2
6/9/08	Citi	Lehman is raising another $4b in common equity and $2b in mandatory convertible stock. We est that the proforma BV per share will be about $33 and that proforma tangible equity per share will be about $27. Based on the pre-announced loss of $5.14 share we estimate that the leverage comes down to 20x gross and 10x net (vs peak at 31.7x & 16.1x, respectively).	1
6/9/08	Citi	Raising $3.2b more capital than it lost in 2Q helps to address the $65b elephant in the room (which was $85b at the end of 1Q). On the positive side, the $85b in hard to sell assets was reduced by about $20b and is now around $65b. Having said that, $65b is still quite large and until it comes down further (which management seems to be focused on) it will likely keep the stock range-bound near-term ($28 to $33) trading between tangible book and book value.	1
6/9/08	Deutsche Bank	LEH said that it is done deleveraging and that it is okay with a net leverage ratio of 12.5x. Indeed, LEH indicated that it intends to redeploy the new capital, but perhaps only $3B of it for now since the other $3B could be viewed as having offset the loss for the quarter. Risky areas such as residential real estate, commercial real estate and real estate investments were reduced by 15%-20%.	2
6/9/08	Deutsche Bank	Lehman raised $6B of capital consisting of $4B of common at $28/share and $2B of convertible preferred. This should increase total equity from $26B at quarter-end to $32B and shares outstanding from 640 million fully diluted to 840 million pro forma (60 mil. more from convertible and 140 mil. from common). LEH said that the new equity was to provide additional confidence so that it could put behind solvency/liquidity issues and get back to running its day to day business.	2
6/9/08	Fox-Pitt, Kelton	Mgmt characterized the deleveraging job as over, and said gross lev. would remain at 22x (inc. the raise), which is more akin to what one sees during an equity-centric cycle. But equity activity (adjusted) is far short of the late 1990s, when inv. banks/brokers' ROEs were 30%.	1
6/9/08	Fox-Pitt, Kelton	Lehman today raised capital in an effort to put to rest questions about its soundness. Mgmt does expect a $2.8 bil. loss in fiscal 2Q08, but this could have been absorbed without a raise, were it not under so much scrutiny lately. If there is a silver lining, the firm will be able to use this now-excess capital to be more offensive.	1

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6/9/08	Morningstar	During the conference call, CFO Erin Callan indicated that the bank would not simply be using the capital to deleverage its balance sheet, but would also be deploying capital to take advantage of opportunities in the market. In our opinion, it is unlikely the bank will put the additional capital to work, at least until the volatility in the credit markets calms, as Lehman will not want to risk the possibility of another capital-raising should conditions once again deteriorate. According to Lehman, after its capital-raising today, total assets stood at 22 times total equity versus almost 32 times at the end of last quarter.	1
6/9/08	Raymond James	Increase in capital = USD6.0bn.The capital increase looks overdone relative to the size of the losses announced. Probably, Lehman (like CASA and UBS in Europe) probably expects tighter capital requirements in upcoming quarters. Lehman is opting to raise the necessary funds in a single shot rather than risking running into trouble in a few months time. This cash call deals with losses in Q2 but also a possible need for a broader capital case — which may be required of the bank in a relatively near future.	1
6/9/08	UBS	Stock is still trading below the new, lower book of $34, leverage is down a lot (and even more post capital raise), liquidity & capital ratios likely look OK, illiquid positions are down 15%-20% (more in June) & capital raise likely eases Bear-like liquidity/franchise concerns.	1
6/10/08	Credit Suisse	With underlying activity levels in the trading businesses falling short, there’s a risk that there’s been some compromise of franchise/client relationships in the de-leveraging process.	2
6/10/08	Credit Suisse	From a valuation standpoint, we believe investors should warm to the bondholder-friendly moves (albeit belated) the company has made, namely, beginning to dispose of out-of-favor assets, building liquidity, and reducing leverage.	4
6/10/08	Credit Suisse	We appreciate the lower leverage levels, and from here, we expect the firm to be willing to take more risk on its trading desks. However… with $65 billion in remaining real estate exposure, the firm’s ability to be “opportunistic” in the most distressed arena is likely to be limited.	5
6/10/08	Merrill Lynch	$6bn capital raise should ensure strong capital ratios. We estimate a Tier 1 ratio under B-II of ~12%, putting it on par with some of the best capitalized large banks; tangible equity/total assets now 3.7%.	1
6/10/08	Merrill Lynch	The company believes it has completed its de-leveraging and will not further reduce its assets/equity ratios, which ended the quarter at under 25x gross and under 12.5x net. The implication is that the newly-raised capital will, within a reasonable time frame, be leveraged to about these levels rather than used to reduce leverage ratios further.	3
6/10/08	Merrill Lynch	The capital raise means the firm will be “strongly” capitalized, even after the loss. We estimate tier-1 capital under the new Basel II framework (CSE) will be around 12% of Risk Weighted Assets (RWA), or about 10% before the capital raise. We estimate the tangible equity/assets ratio will improve to 3.7% from 3.1%.	3

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6/10/08	Merrill Lynch	Asset reductions were in-line with expectations and we expect assets will increase from this point as LEH maintains its leverage ratio in the 20x-25x range.	4
6/10/08	Merrill Lynch	As with most brokers, LEH's business is very balance-sheet intensive and employs high lev, and revenues can be very "lumpy" and subject to global mkt disruptions.	5
6/10/08	Merrill Lynch	Given near-term earnings risk and relatively high level of hybrid capital, we can't rule out equity issuance.	5
6/10/08	Oppenheimer	We note that from day one, CFO Erin Callan had been explicit and deliberate on Lehman's intention to delever the balance sheet. Back in the 1Q08 earnings conference call (3/18/2008), CFO Callan stated that the company did "very deliberately, take leverage down for the quarter. We ended with a net leverage ratio of 15.4 times, down from 16.1 at year end. And we will continue to allocate capital on the balance sheet in the market in a way that we consider prudent, and that reflects the liquidity profile of the balance sheet." Callan reiterated this point to us during our meeting with her (on April 21, 2008), saying that the company's target adjusted leverage ratio for delevering was 12x.	2
6/10/08	Oppenheimer	Despite the fact that recent capital raises at the time had brought the company closer to the target leverage ratio, Callan said the company would continue to focus on de-risking by selling illiquid assets. In fact, management has set specific levels that exposures to illiquid assets should be at by the end of 2Q08. On Monday's pre-announced earnings conference call, CFO Callan made a clear point that the company "does not intend to lower [its] leverage ratios from these levels" given an estimated reduced net leverage to under 12.5x at the end of 2Q08. That is, Lehman's "deleveraging is complete."	2
6/10/08	Oppenheimer	The company reduced gross leverage to under 25x in 2Q08 from 31.7x at the end of 1Q08, and reduced net leverage to under 12.5x at the end of 2Q08 from 15.4x at the end of 1Q08 (both ratios are prior to Monday's announced $6 billion capital raise).	3
6/10/08	Oppenheimer	For 1Q08, the gross leverage ratios (as defined as total assets divided total equity) for the brokers exceeded 25x. Morgan Stanley had the highest gross leverage ratio out of the U.S. brokers followed by Lehman Brothers with a ratio of 31.7x. The brokers have begun the process of delevering their balance sheets which further reduces their earnings potential.	12
6/10/08	UBS	Both the loss & capital raise were larger than expected, and while the capital raise helped alleviate some liquidity concerns and brought LEH's net leverage ratio below 10x & gross leverage below 22x, continuing questions around the adequacy of marks on the remaining $65B of risk exposures and the resulting 25+% dilution to EPS from the capital raise could keep the shares range bound.	1

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6/10/08	UBS	Liquidity Concerns Should (Again) be Off the Table. We think any lingering liquidity fears should have been put to rest by Lehman's disclosures and commentary on the conference call yesterday, as the firm upped its parent liquidity pool (now at $45 billion), raised an additional $6 billion in capital, de-leveraged its balance sheet to bank-like levels (pro forma net leverage is less than 10x), generated reasonably healthy core revenues (customers don't seem to be running away), did not have repo lines pulled by counterparties, completed its debt funding needs for the rest of 2008, and have not tapped the Fed window since April 16th.	2
6/10/08	UBS	In our view, this should at least close the book on part of the short story and put to bed any concerns of a possible re-enactment of the Bear Stearns saga. Given that perception matters almost as much as reality, we think management did the right thing by reducing leverage as much as they did and also raising the $6 billion in equity despite a loss of just $2.8 billion (a cushion may prove to be useful if the economy continues to sputter and assets need to be marked further), though we think the possibility of a liquidity storm was not the main reason the stock has been under pressure.	2
6/10/08	UBS	Capital Adequacy – Why the Cushion? According to management, the capital raises were done to de-leverage the balance sheet, mitigate concerns from constituents (large shareholders and counterparties), offset some of the large, illiquid positions on Lehman's balance sheet, and also provide some flexibility to take advantage of market opportunities in the months ahead. When asked specifically about the magnitude of the latest capital raise relative to the size of the quarterly loss (basically 2 to 1) and the fact that Lehman is pretty much done de-leveraging, management responded that they were trying to achieve a level of confidence around their balance sheet in the market which would enable them to get back to business as usual as opposed to answering questions about their capital base on a regular basis.	4
6/10/08	UBS	In addition, they noted that about half of the raise, or $3 billion, would be used to take advantage of upcoming opportunities as they develop. While we appreciate that there will be opportunities ahead and having dry powder is useful, we think the extra capital may also be useful as a cushion against the remaining $65 billion of risk exposures, which could see additional mark-to-market hits in coming months as the economic backdrop weakens.	4
6/10/08	UniCredit[2]	Despite its disappointing P&L figures, management put in place a number of actions: (a) the liquidity pool rose to USD 45 bn (vs. USD 34 bn at the end of Q1); (b) assets decreased by USD 130 bn on a gross basis (by USD 60 bn on a net basis); (c) leverage was brought to 25x vs. 32x on a gross basis (13x vs. 15x on a net basis); (d) most (if not all) risky exposure was reduced: (i) residential mortgages, commercial mortgages and real estate investments by 15% to 20% in each asset class; (ii) acquisition finance by roughly 35%; (iii) non-investment grade inventory by 20% (including funded acquisition finance assets). Level 3 assets, which went through some reshuffling, are expected to remain at the same level as at the end of February: USD 43 bn.	1
6/10/08	Wachovia	We do believe the capital raise will serve LEH's business well but is a major negative for equity shareholders.	1

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6/11/08	HSBC[2]	The larger than expected Q2 loss and larger than expected capital raise seem designed to stop what management referred to as the “distractions” that caused the stock and credit to sell off in recent weeks. We see these actions as steps in the right direction, but the bigger issue hanging over the Lehman credit, in our opinion, is what we see as significantly reduced fundamental earnings power. Lehman Brothers moved up its earnings release date a week in order to answer questions which have been circling the company largely since Greenlight Capital’s David Einhorn raised questions about the quality of its balance sheet and its accounting disclosure in a speech given May 21.	1
6/11/08	HSBC[2]	We believe LEH management acted aggressively to address issues weighing on investor confidence, particularly (1) the size of LEH’s balance sheet, (2) its sizable concentrations in mortgage and leveraged finance assets, and (3) its overall leverage. Over the course of the quarter, the overall balance sheet has been reduced by USD130bn in gross assets (16% of the USD786m reported at February 29) while net leverage has been reduced from 15.4x at the end of Q1 to around 12.5x. While the leverage figure is quoted before the addition of the USD6bn capital raise, management was quick to point out that leverage will not drop below this level.As an aside, management’s footnoted comment that “net leverage as [defined] is not necessarily comparable to similarly-titled measures provided by other companies in the securities industry because of different methods of presentation” is exactly what plagues the industry, in our opinion.	2
6/11/08	HSBC[2]	Beyond the balance sheet issues, the other profound change taking place at LEH is a reduction in its fundamental earnings power. In a more normal environment, we believe LEH will earn materially less than it did in the credit bubble, because: Leverage is materially lower; Liquidity cost is higher ...	2
6/11/08	Merrill Lynch	We do believe that LEH will be a survivor, because its liquidity and capital/ leverage positions are relatively solid and because, as a bulwark against moments of extreme funding stress, the Fed’s window is currently open in a way that it was not at the time of the Bear Steams debacle.	3
6/11/08	Merrill Lynch	As with most brokers, LEH's business is very balancesheet intensive and employs high levg, and revenues can be "lumpy" and subject to global mkt disruptions. LEH holds substantial balances of illiquid secs subject to more negative marks. Going forward, IBs will likely face greater gov't scrutiny of leverage that could hinder peak returns. Also, LEH is smaller and more concentrated than other major firms, with less sticky funding sources and thus more prone to concerns over liquidity, though for the time being recent Fed actions appear to have eliminated the possibility of another Bear Stearns type run.	5

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6/11/08	Morningstar	Lehman was forced to play defense following the collapse of rival Bear Stearns. The resulting turmoil led to a significant quarterly loss and market participants' concern regarding Lehman's balance sheet, forcing the bank's action to calm fears. After its recent equity capital raise, which significantly accelerated the banks delevering process and should help to alleviate concerns about Lehman's balance sheet, the bank will now look to go back on offense. We expect Lehman to recover, but the market concern surrounding the bank's balance sheet remains elevated.	1
6/11/08	Morningstar	Lehman was forced to raise significant equity to squelch investor concerns surrounding its balance sheet. The capital raises were extremely dilutive to existing shareholders and we cannot be certain that they will completely eliminate fears surrounding Lehman's balance sheet.	1
6/11/08	Morningstar	Lehman significantly decreased its balance sheet leverage during the second quarter of 2008. After $130 billion in asset sales and $10 billion in equity raises, Lehman's reduced assets from 32 times equity to 22 times equity. That said, its leverage is still high and market concern about its balance sheet may not be mitigated by these dramatic steps.	3
6/11/08	Morningstar	Lehman's capital raise expedited the bank's deleveraging process, reducing total assets to only 22 times equity, down from 32 times equity at the end of the first quarter. During the second quarter, Lehman had already sold approximately $130 billion of assets and raised $4 billion in convertible preferred equity, reducing assets to 25 times equity before this latest capital raise. Lehman has stated that it will deploy some of the capital it raised and not use it solely to delever its balance sheet. That said, we believe Lehman is likely to be conservative in deploying the capital and will operate with lower leverage levels, at least in the short run, as the bank will not want to run the risk of another dilutive capital raise. ... While we don't think it is likely the other banks will reduce assets to Lehman's level of 22 times equity, we do now think it is probable that they may rein leverage in to the 25 times equity level.	1
6/16/08	Deutsche Bank	Lehman's 2Q08 was in line w/its pre-release but gave more detail. Pro forma total capital is above minimum (19% vs. 10%) and reflects a healthy Tier 1 (12.5%). The CEO said that he was okay with balance sheet valuations as of today. We estimate Lehman has taken $14B of write-downs and has $2B more to go (est. $1.50/share haircut), mostly in commercial, though we expect book value of $33 to remain about steady given other offsets.	1
6/16/08	Wachovia	LEH provided extensive disclosure around its positions in residential, commercial, and leverage loan exposures. We believe the stepped up effort is a positive first step in what will likely be a long road to restoring market credibility. Although more asset sales are likely, we believe LEH is in a better position to sell at its own pace compared to the accelerated selling effort in Q2. The improved capital and liquidity position should go a long way to calming market fears, particularly on the fixed income side. It does sound like some marks are still possible in commercials, Alt-A, and in Europe. ... LEH should recover from recent turmoil, management changes, and challenging markets. An improved liquidity and capital profile will likely be felt throughout the firm.	1

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6/16/08	Wachovia	DELEVERAGING LARGELY COMPLETED. The deleveraging process was in full swing in the quarter as LEH sold \$147bn in gross assets or \$70bn on a net basis. The asset sales brought gross leverage down to 24.3x versus 31.7x in Q1 and net leverage down to 12.0x from 15.4x. Pro forma for the capital raise, gross leverage is 20x and net leverage is 10x. Assets sold were largely broad-based: across asset-classes and vintages, irrespective of liquidity, and throughout the entire quarter. Residential mortgage asset sales totaled \$11bn, while purchases were \$6bn. On the commercial side, \$8bn in assets were sold, which consisted of \$2bn in senior loans, \$2bn in mezzanine loans, \$2.9bn in securities, and \$1bn in equity. Only 20% of commercial-related sales included financing to buyers. Management noted that the deleveraging process has largely ended. Management still intends to reduce CRE exposure, but leverage ratios are probably at trough levels, given that LEH will begin to deploy the capital raised from its recent offerings.	2
6/17/08	Buckingham	We see two incremental positives coming out of yesterday's earnings release, including greater-than-expected asset reductions and much greater disclosure around mortgaage positions. Bottom line, the balance sheet appears to be in much better shape going forward. And while LEH still has above average risk compared to some peers, it also has a bigger capital cushion, with pro forma net leverage of 10x and gross leverage below 20x – 40% lower than its peers.	1
6/17/08	Buckingham	In terms of asset reductions, total assets fell by \$147bn (vs. \$130bn expected) and net assets fell by \$70bn (vs. \$60bn expected). This reduced net leverage to 12.0x and gross leverage to 24.3x. Including the recent capital raise, we calculate a pro forma net leverage ratio of 9.9x and a pro forma gross leverage ratio of 19.8x – 35%-40% lower than LEH's peers. However, we don't expect LEH to sit on the new capital but to deploy it over the next few quarters, and we therefore expect net leverage to move back toward 12x-13x over the next 6-9 months.	2
6/17/08	Buckingham	In sum, we believe the greater than expected reduction in leverage and risky assets, as well as the significantly enhanced disclosures around mortgage asset pricing and concentrations, gives us (and should give the market) more comfort around balance sheet risks at LEH.	3
6/17/08	Buckingham	However, although these risks are higher than at LEH's peers, so is the company's capital cushion. As noted previously, LEH's net leverage ratio fell to 12.0x in 2Q08, and on a pro forma basis is below 10.0x. This is well below (nearly 40% below) the 16.0x+ net leverage ratios at its peers.	3
6/17/08	Buckingham	LEH's long term capital position is solid. LEH noted that its total regulatory capital ratio at the end of 2Q08 was over 15% (vs. minimum of 10%). In addition, the company's regulatory Tier 1 capital ratio (which will be published for the first time in the 2Q08 10Q) will be north of 10% (vs. roughly 8% at commercial banks). Proforma for the recent \$6bn capital raise, LEH estimates that its total capital ratio will be at least 19% and tier 1 ratio will be a healthy 12.5%.	6
6/17/08	Fox-Pitt, Kelton	The only thing that we DO see is a company that has meaningfully reduced problem assets, de-levered, grown its liquidity pool, and still maintained a strong, diversified client franchise.	1

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6/17/08	Ladenburg	The primary reason for the rating adjustment is a belief that the company has settled the uncertainties related to its balance sheet. It has: a) raised $4.0 billion in a common stock offering; b) an additional $7.9 billion in three preferred stock offerings; and c) $3.5 billion in two debt offerings. In addition, it has reduced the size of its balance sheet by $147 billion and it claims to have raised its liquid assets to $46 billion or well above its short-term financing needs.	1
6/17/08	Merrill Lynch	However, LEH sold ~$17bn more in assets than expected and we now believe our on-going leverage expectations are too aggressive. Accordingly, we are cutting our asset growth forecast which in turn drives a significant cut to our Trading forecast in 2009.	1
6/17/08	Merrill Lynch	Assets declined by $147bn in the quarter, about $17bn more than was indicated in the preliminary release last week, and amounting to nearly 19% of the Q1-end asset base. Only around $25-30bn of the reductions were in the more-difficult, less-liquid asset classes, we believe, but the reduction reflected both a desire to reduce less-liquid exposures and to de-leverage broadly.	3
6/17/08	Merrill Lynch	As with most brokers, LEH's business is very balance-sheet intensive and employs high levg, and revenues can be "lumpy" and subject to global mkt disruptions. LEH holds substantial balances of illiquid secs subject to more negative marks. Going forward, IBs will likely face greater gov't scrutiny of leverage that could hinder peak returns. Also, LEH is smaller and more concentrated than other major firms, with less sticky funding sources and thus more prone to concerns over liquidity, though for the time being recent Fed actions appear to have eliminated the possibility of another Bear Stearns type run.	7
6/17/08	Oppenheimer	The company reduced gross leverage to 24.3x in 2Q08 from 31.7x at the end of 1Q08, and reduced net leverage to 12x at the end of 2Q08 from 15.4x at the end of 1Q08 (both ratios are prior to Monday's announced $6 billion capital raise).	4
6/17/08	Oppenheimer	Management estimates that Tier 1 capital ratio will be over 10% at May 31st and total capital ratio over 15% (both ratios are prior to recent $6 billion capital raise). These ratios will increase with the recent capital raise. Accounting for the recent capital raise, the total capital ratio is estimated to be not less than 19% and Tier 1 capital will not be less than 12.5%.	4
6/17/08	Oppenheimer	For 1Q08, the gross leverage ratios (as defined as total assets divided total equity) for the brokers exceeded 25x. Morgan Stanley had the highest gross leverage ratio among the U.S. brokers followed by Lehman Brothers with a ratio of 31.7x. The brokers have begun the process of delevering their balance sheets which further reduces their earnings potential.	16
6/17/08	UBS	In our view, with questions related to Lehman as a going concern mostly off the table (Fed facility doing its job, capital & liquidity are fine, leverage down a ton, illiquid exposures~20% lower), the adequacy of asset marks and earnings power of the franchise are the key issues.	1

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6/17/08	UBS	For now, given the high enough capital ratios (12.5% pro forma Tier 1), better (but not perfect) granularity around pricing and lack of new news (Lehman specific that is – the environment still isn't great), we think Lehman's stock can settle in here and even rise closer to stated book (not tangible, Neuberger is worth more) as the shorts get a little impatient. Longer term, we think the jury is still out related to Lehman's marks, business mix, and earnings power, and even the business model in general, as the industry tries to digest what just happened and sorts out the future structure of regulation, disclosure, and what kind of leverage, capital, and liquidity metrics these companies should operate under.	2
6/17/08	UBS	Going Concern Issues Should Die Down. Specifically we think management once again did a good job allaying any lingering liquidity fears as the firm's parent liquidity pool closed the quarter at a robust $45 billion, up from $34 billion at the end of 1Q, Lehman's Tier 1 capital ratio (under the Basel II standards) was north of 10% at the end of 2Q and is above 12.5% after the recent capital raise, leverage ratios are the lowest in the peer group, and Lehman has seen no repo lines pulled by counterparties (LEH has also been over-funding and terming out repo as a precautionary measure) and has completed its debt funding needs for the rest of 2008.	3
6/17/08	UBS	In addition, given the existence of the Fed's Primary Dealer Credit Facility as a backup plan, we do not expect Lehman to experience a run-on-the bank scenario which caused Bear to become part of a larger entity. Finally, given Lehman's healthy liquidity and capital ratios, we think calls for a capital infusion from a strategic partner should die down, and we get the sense that if another firm was interested in taking a meaningful stake in Lehman this would be accomplished in the open market as opposed to through another dilutive share issuance (stock's been trading 50-100 million shares lately).	3
6/17/08	UBS	Summing it up, while Lehman made substantial progress reducing its balance sheet in 2Q and management noted that de-leveraging is done as far as they are concerned (gross leverage is roughly 20x and net leverage 10x post the capital raise), we think there is more de-risking that needs to take place and investors seem to be of the same mindset. While Lehman trimmed its risky exposures by about 21% in 2Q ($83 billion at the end of 2Q versus $105 billion at the end of 1Q) through a combination of sales and gross write-downs, management did note that it would look to further reduce its commercial mortgage exposure over time given the still significant size (~$40 billion) versus the firm's pro forma tangible equity base of $33 billion.	4
6/30/08	Morgan Stanley	We think near-term risk of incremental write-downs is balanced by solid liquidity and capital footing.	1
6/30/08	Morgan Stanley	BV is difficult to pin down, but we believe LEH has sufficient capital to absorb downside risk to our base case write-down estimate.	1
6/30/08	Morgan Stanley	Our take: We see downside risk to BV of 7% in a base case and 15% in a bear case, stemming from (pre-tax) write-downs of $2.5 billion and $5.4 billion, respectively. We believe the firm has sufficient capital to weather write-downs, although in our bear case scenario an incremental $1.2 billion in capital would be needed to keep leverage at or below 22x, all else equal.	3

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6/30/08	Morgan Stanley	1. Too little capital for risk overhang, but too much capital for normalized returns? The question is, How much capital is sufficient for illiquid balance sheet exposures, and does this capital impair Lehman's ability to produce normalized returns in a recovery?	3
6/30/08	Morgan Stanley	Balance sheet finally begins to come down Lehman has finally taken steps to bring down the size of its balance sheet. While a rapid decline in leverage in conjunction with new capital raises will take a bite out of ROE, we see the potential for improving asset yields in a normalized environment. Importantly, we believe much of the deleveraging has already occurred, with total assets poised to decline only modestly in next several quarters.	4
6/30/08	Morgan Stanley	Management was slow to derisk. However, LEH's assets continued to grow meaningfully after 2Q07, unlike several of its peers who began to dial back exposures at year-end. Thus, despite the aggressive asset sales in 2Q08, LEH's gross assets are only back to pre-crisis 2Q07 levels. LEH decided it was better to hold on to large swaths of its balance sheet and absorb incremental mark-to-market losses, rather than unload assets at a loss and preclude the opportunity to participate in a valuation recovery. In fact, the firm took this one step further, with management noting on the 1Q08 conference call that they were actually adding certain mortgage assets at the end of 1Q08.	4
6/30/08	Morgan Stanley	Thus, the recent massive asset drawdown should be viewed in the context of a belated coming to terms with the market backdrop. Asset drawdowns of approximately $150 billion in 2Q08, along with the raising of $10 billion in new equity since the end of 1Q08 ($4 billion of convertible preferred stock on April 1, 2008, a further $6 billion on June 9, 2008), has accelerated deleveraging at Lehman. LEH has seen gross leverage rise from 23.7x in 2003 to 31.7x in 1Q08, or ~30%, though still less than the 52% increase seen at peers. At the end of 2Q08, LEH's gross leverage was 25.2x and about 19.8x on a pro forma basis (for $6 billion equity raise). We do not expect 2Q08 pro forma leverage to become the new run-rate going forward. We expect Lehman to maintain this ratio near term, but as balance sheet repair and funding sources evolve, LEH will probably be more comfortable taking the ratio higher, particularly against an improving macro backdrop.	5
7/14/08	Fox-Pitt, Kelton	We continue to believe that the decline in Lehman's stock has little to do with the company's liquidity and balance sheet, but is more based on investors' pricing in the probability of a Bear Stearns-like run-on-the-bank.	1
7/14/08	Fox-Pitt, Kelton	Leverage Ratios Are In Line With Peers. In 2Q08, Lehman reduced its leverage ratio and adjusted leverage ratio 23% and 18%, respectively, resulting in ending leverage ratio of 24.3x and adjusted leverage ratio of 12.6x. Overall, Lehman's leverage was below those of its peers' in 2Q08.	3
7/14/08	Morgan Stanley	While we recognize it is difficult to focus on fundamentals in the current market backdrop, we believe LEH has both the capital and liquidity to weather near-term headwinds.	1

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7/23/08	UBS	While clients & employees are nervous, from what we can tell, there's only been modest erosion at this point. Importantly, we think Lehman has more staying power given the existence of the Fed facility, its healthy liquidity profile, strong capital ratios, and the fact that repo counterparties have held firm.	1
7/23/08	UBS	In our view, the main issues at this point are Lehman's remaining 'problem' asset exposures, the related fears over Lehman's client franchise (which get amplified by the drop & volatility in its stock), the less than favorable macro backdrop, and lingering concerns over the future structure of the industry (and where Lehman fits in)…. As great as Lehman's track record is, the company got caught owning too many illiquid assets relative to the size of its equity base when the music stopped…. Given our overall negative view on the credit, economic and capital markets backdrop, we do think that Lehman's remaining 'problem' exposures ($83 billion across residential and commercial mortgage, real estate, other ABS, and leveraged loans) will continue to weigh on the shares and likely lead to further write-downs as the credit crisis drags on.	4
7/23/08	UBS	The basic takeaway is that while we think a significant asset sale would cause a major negative hit to book value, Lehman's Tier 1 ratio and leverage ratios would likely remain in pretty good shape given its strong starting point, and the firm's overall risk profile would improve materially.	5
7/23/08	UBS	While some critics might say that Lehman would be giving away any potential upside of the assets it sells, we think that right now the firm needs to focus on survival and can then go back to focusing on generating attractive returns. On that note, given Lehman's healthy capital ratios, management could actually start thinking about reinvesting at some point following this significant de-risking of the balance sheet and freeing up of capital. That being said, trying to make a guesstimate on how much assets Lehman needs to sell and how big of a haircut they would need to take is extremely difficult (see our scenario analysis above).	6
7/24/08	Morgan Stanley	We see fundamental-driven downside risk under what we consider a worst case scenario where the firm reports in excess of $12bn in write-downs, a threshold that we believe would drive the need for incremental capital (or alternatively, a merger partner). ... We continue to believe that LEH has both the liquidity (backstopped by the Federal Reserve's PDCF) and the capital to manage its illiquid asset overhang.	3
7/24/08	Morgan Stanley	Absent an additional capital raise or meaningful balance sheet asset sales, LEH's Tier 1 capital ratio would decline from 13.5% to 10.1%, its gross leverage ratio would increase from 20x to 25x, and its book value per share would decline from $33.15 to $22.66 (tangible book value from $27.30 to $16.81).	3

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7/24/08	Morgan Stanley	Tier 1 Capital Ratio, a primary metric for regulators to assess broker capital positions, would still remain above 10% (which compares favorably with MER at 9.7%). In terms of the denominator, each $20bn reduction in RWAs from 2Q08 level of $217bn boosts Tier 1 Ratio by 100bps. Adjusted leverage ratio of 25x is also not necessarily excessive, particularly if higher leverage was accompanied by a reduced risk profile as commercial mortgage inventory was marked down in conjunction with asset sales; also, total assets calculation only assumes a $20bn decline in assets, which is conservative.	4
7/27/08	Ladenburg	Lehman does appear to have solved its capital problems. Trading in a variety of residential and commercial real estate products has begun once again. Lehman is actively trading its products across a wider spectrum suggesting that mark downs on assets may be coming to an end for this company.	1
7/28/08	Merrill Lynch	Liquidity and capital at comfortable levelManagement remains comfortable with the firm's liquidity and capital adequacy, despite the likely continuance of negative marks.	3
8/1/08	Morningstar	We are placing Lehman Brothers under review as we incorporate the probability the company may look to sell a large quantity of difficult-to-value assets in order to help restore confidence in its balance sheet. The sale of a large quantity of difficult-to-value assets alone would not drive us to change our valuation; however, if the firm were to take a significant loss on the transaction, Lehman could be forced to raise capital to ensure confidence in its balance sheet.	1
8/14/08	Bank of America	Of LEH's $64B (see below) in risk exposures remaining across resi-mortgage, CRE & LBOs, mgmt expects to take a linear path to reducing exposures vs. one-time bulk sales to minimize price impact. For q3, mgmt targets a 20%+ reduction w/a focus on reducing investor & client 'crisis of confidence' issues impacting LEH's client-facing franchise.	3
8/14/08	Bank of America	Lehman is the most levered large investment bank to the fixed income market, and hence a more challenging fixed income market (with higher long-term interest rates, lower volatility and wider credit spreads) could hurt them the most.	3
8/15/08	Morningstar	The major U.S. investment banks--Goldman Sachs , Lehman Brothers , Merrill Lynch , and Morgan Stanley --still face a great deal of turmoil as the volatility in the credit markets remains elevated. ... Finally, the situation with Lehman Brothers is still highly uncertain today as it still have *[sic]* significant risk on its balance sheet and an additional dilutive capital raise cannot be completely ruled out, in our opinion.	1

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8/18/08	Morningstar	The failure of competitor Bear Stearns raises the question of whether another investment bank could unravel. Speculation about another bank failure increased recently as Lehman came under pressure. The investment banks can now directly gain access to the newly created primary dealer credit facility, which greatly reduces the risk of another bank collapsing, in our opinion. However, it is not a guarantee that another could not fail. ... Credit spreads have widened again since May, and Lehman will likely have to take another mark against these securities at the end of the third quarter. Depending on the size of the mark, Lehman may look to raise new capital to shore up investor confidence in its balance sheet as we have described in our thesis and valuation sections.	2
8/18/08	Morningstar	Lehman significantly decreased its balance sheet leverage during the second quarter of 2008. After $130 billion in asset sales and $10 billion in equity raises, Lehman's reduced assets from 32 times equity to 22 times equity. That said, its leverage is still high, and market concern about its balance sheet may not be mitigated by these dramatic steps.	3
8/20/08	Buckingham	Our “base case” ($30-$40bn asset sales and additional 15% “mark” in 4Q) results in BV of $26.24, a Tier 1 ratio of 13%, and net leverage of 10.3x – still the strongest ratios in the group and helping limit further dilution risk.	1
8/20/08	Buckingham	Bottom line, while this is not to say that LEH would definitively not raise capital, particularly if the % marks were at the high end of our expected range, it does show that they have significant capacity to absorb write-downs in a distressed sale situation.	4
8/27/08	Morgan Stanley	We believe a key question for investors is not the size of the write-down, but how remaining illiquid asset exposure squares with capital cushion. This will reflect action by LEH to restore confidence in balance sheet marks and its capital position (e.g., potential stake sale, 3rd party venture to manage portfolio).	1
8/27/08	Morgan Stanley	Incremental write-downs may be needed to move a meaningful block of illiquid assets (beyond the ~$15bn reduction we expect in 3Q); however, we believe LEH has ample capital (Tier 1 capital ratio would still exceed 10% after a ~$10bn write-down).	1
8/28/08	Ladenburg	Second, the firm must bring in capital to offset the write downs no matter how dilutive.	1
9/8/08	Bernstein	There have been numerous reports circulating in the financial press concerning potential strategic moves Lehman Brothers is pursuing to strengthen its capital position and reduce its risk exposure.	1
9/8/08	Bernstein	But, in order to maintain a target leverage ratio of 19.8x following the spin-off, we believe the "New" Lehman will have to raise another $7.5 billion from third party sources. Assuming Lehman is able to raise this capital at book value (Bernstein calculates the book value per share of the "New" Lehman will be $22.25 after the NEU sale and the CRE spin-off), the firm would have to issue ~340 million shares in order to raise $7.5 billion. This would dilute current shareholders by over 30%. We believe a scenario like that described above would be a positive for the 'New Lehman' stock. Following these potential transactions, Lehman would be a better capitalized firm with reduced exposure to troubled commercial real estate assets.	2

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9/8/08	Bernstein	The equity market remains concerned that Lehman's earnings power has been eroded by the decline in its industry-leading residential and commercial mortgage origination business. And credit default swap spreads on Lehman Brothers suggest continuing concern in the credit markets about the firm's large exposure to RMBS and CMBS inventory positions and to Commercial Real Estate investments. The Federal Reserve is buying time for Lehman and the rest of the securities industry by providing access to the funding window through year end 2008. And Lehman's management has shown that (at least for now) that it is committed to deleveraging and de-risking the firm's balance sheet and strengthening its funding base.	2
9/8/08	Bernstein	Lehman is currently tied with Merrill Lynch for the lowest credit ratings among the domestic large capitalization security firms at A/A1. To stabilize its credit ratings, the firm will need to raise at least as much equity capital as it loses. That is easier said than done in this market.	3
9/8/08	Bernstein	Leverage is high at the company and the firm has issued more hybrid 'capital' than the major rating agencies will accept as an equity equivalent. Regulators and rating agencies are increasingly vigilant and this is forcing Lehman to decrease leverage despite difficult credit market conditions.	10
9/8/08	Merrill Lynch	After the June capital round, LEH's tier-1 was 13.5% (under CSE/Basel II framework) with Tangible Eq./Assets at 4.4%. To maintain suitable cushion against further debt downgrades and possible need to capitalize a "bad bank" structure (or accept residual risk for it) we believe LEH would need to raise at least $3.6bn in fresh capital, which should keep ratios intact; "fire-sale" prices could require $5.4bn. Talk of $4-$5bn raise (range reportedly proposed by KDB for 25% stake) is not far-fetched, in our view, though implied price (around $19-23) seems high.	1
9/8/08	Merrill Lynch	There has been endless debate over whether it will sell its Asset Management business in order to generate needed capital, or whether it will seek to sell itself or to raise capital via a strategic partner. At this point we believe it's useful to step back and assess the degree of loss the company may be realistically looking at; the amount of capital that might be needed to repair the balance sheet; and consider the pros and cons of the various options for doing this.	3
9/8/08	Merrill Lynch	We will start with an assertion: LEH must maintain a tier-1 capital-to-riskweighted-assets ratio of at least 13.5% and a Tangible Equity/Total Assets ratio of at least 4%, in order to avoid a credit ratings downgrade. The tier-1 was 13.5% after the June capital round (and May-quarter loss) and TE/TA was 4.4%. Given an upcoming potential change in tier-1 calculation (per the Bank for International Settlements) and ongoing concerns over markets, we doubt the company wants to risk a capital ratio lower than where it is currently.	3

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Date	Report Issuer	Quote	Page
9/8/08	Merrill Lynch	We believe lower capital ratios would prompt the major ratings agencies to consider downgrading LEH. The firm's current ratings profile is A2/A with a negative outlook and the next notch down would be A3/A-, a point at which LEH would, we believe, be forced to post significantly more collateral for its trades. Furthermore, it would then be on the verge of BBB+, which we think is fundamentally incompatible with a trading based model. This, together with the contemplated BIS change in RWA calculation, leads us to believe that the company will not want to go below about 13.5% tier-1, with TE/TA well above 4%.	3
9/8/08	Merrill Lynch	It's also worth noting that LEH is, according to unconfirmed press reports, possibly considering spinning off its riskiest assets into a "bad bank" structure, which could take different forms but would most likely require writedowns (these are included in our scenarios, of course) and also could require that the company put up some of the capital to support the entity, or agree to some residual loss exposure (recourse) in order to entice buyers to invest in it. All this would require capital. The flood of press reports in recent days suggests that the company does seem to be moving to raise capital and unload assets.	3
9/8/08	Merrill Lynch	As with most brokers, LEH's business is very balance-sheet intensive and employs high leverage, and revenues can be "lumpy" and subject to global market disruptions. LEH holds substantial balances of illiquid securities subject to more negative marks. Going forward, IBs will likely face greater government scrutiny of leverage that could hinder peak returns. Also, LEH is smaller and more concentrated than other major firms, with less sticky funding sources and thus more prone to concerns over liquidity, though for the time being recent Fed actions appear to have eliminated the possibility of another Bear Stearns type run.	4
9/8/08	Merrill Lynch	The new forecast, before any new capital-raising, would leave tier-1, we estimate, in the 11.8% range, and TE/TA at 3.7%, on a net loss of $4.6bn (EPS -$6.50). To restore the ratios to 13.5% and 4.3%, respectively, would require a $3.6bn capital infusion by our estimates. ... This clearly would require a bigger round of capital raising, in our view –maintaining current tier-1 and TE/TA ratios would require $5.4bn on this scenario.	4
9/8/08	Merrill Lynch	There has been much discussion over whether LEH might create a "good bank/bad bank" structure as an alternative to just selling assets outright; but either scenario would likely require considerable capital, of course, to offset the realized losses and write-downs. As a result, there is much speculation over whether LEH could sell its asset management unit, sell a stake via newly issued shares instead, or even sell itself outright conceivably, the scale of the new shares required would constitute a controlling stake).	4
9/8/08	Merrill Lynch	As with most brokers, LEH's business is very balance-sheet intensive and employs high leverage, and revenues can be "lumpy" and subject to global market disruptions. LEH holds substantial balances of illiquid securities subject to more negative marks.	11

Exhibit 22
Analyst Quotes Relating to Leverage & Capital Adequacy [1]
Aug 2006 – Sep 2008

Date	Report Issuer	Quote	Page
9/9/08	Fox-Pitt, Kelton	Assessing the Capital Impact. Lehman's controversy and associated stock free-fall became particularly acute upon its 2Q08 earnings report. The company announced plans to raise $6 billion in capital in order to cover the $2.9 billion operating loss in 2Q08, leaving a $3.1 billion capital buffer. From this, we subtract our forecasted $1.8 billion net loss expected for 3Q08, leaving the buffer at a mere $1.3 billion. Now subtracting the expected residential fire-sale loss of $3.9 billion, we arrive at a forthcoming short-fall of $2.6 billion. We next factor in the worst-case scenario from our prior commercial mortgage analysis of $3.3 billion, which yields a total capital shortfall of $5.9 billion, before adjustments. We believe there would be some associated compensation savings, but more importantly, the removal of $50 billion in assets—not to mention higher risk assets— would create a capital release of about $2.5 billion. Still, we will use a mere $1 billion adjustment, thus arriving at a net capital need of $5 billion.	4
9/10/08	Bank of America	All in, Lehman post all the transactions announced today on a pro forma basis will have ~$20-$25 billion in risk exposures vs. common tangible equity closer to $11-12 billion, which is still too high a ratio to instill confidence that "the worst is behind us."	1
9/10/08	Citigroup	Fourth, as a result of bringing clarity around its capital position, its third quarter results, and its intended plan of action, we would not be surprised if management raises external capital to build a margin of safety and to improve perception, which we would view as positive and is more than discounted in the stock. The clarity around these issues positions Lehman to go back to the table and take further actions to strengthen the franchise.	1
9/10/08	Credit Suisse	There remains significant execution risk, most notably with respect to the ultimate value of the commercial real estate being spun-off and with that, future capital needs.	1
9/10/08	Credit Suisse	Lehman reduced its annual common dividend to $0.05 per share from $0.68—a savings of roughly $0.5 billion in capital and cash flow annually. Is that enough? Pro forma for today's announcements—the gain on sale of the Investment Management division stake and the cost of capitalizing REI Global, we estimate Lehman has a Tier 1 capital ratio of 11.0%.	4
9/10/08	Credit Suisse	Share Count. We are using fully diluted shares of 865 million. The assumption that capital is sufficient is the single most significant risk to our estimates with the primary risks to capital sufficiency being twofold: 1) the risk of incremental write-downs against commercial real estate holdings (see our capital sensitivity model in Exhibit 4) and (2) more stringent capital requirements imposed by regulatory authorities and rating agencies.	6
9/10/08	Morgan Stanley	We believe 3Q08 EPS and strategic announcements offered more clarity on illiquid asset dispositions and capital position. However, we believe these positives may be partly offset by continued uncertainty on commercial real estate portfolio.	1

Exhibit 22
Analyst Quotes Relating to Leverage & Capital Adequacy [1]
Aug 2006 – Sep 2008

Date	Report Issuer	Quote	Page
9/10/08	Morningstar	In order to raise capital, Lehman is selling 55% of a subset of its investment management division. … The company has also cut its annual dividend from $0.68 per share to $0.05 per share. This will allow the company to keep approximately $450 million more annually. This is a sound strategic move. Raising capital is becoming more difficult, so earnings should be retained as much as possible to provide for balance sheet liquidity.	1
9/10/08	Oppenheimer	During the quarter LEH reduced gross assets by approximately 6%, from $639 billion to approximately $600 billion and reduced net assets by approximately 5%, from $328 billion to approximately $311 billion. Management expects the company to be well-capitalized with anticipated leverage of 10 to 12 times, and capital to support a $300 billion net balance sheet.	4
9/10/08	Oppenheimer	As of the end of 3Q08, Lehman's gross leverage ratio was 21.1x, down from 24.3x at the end of 2Q08. 3Q08 estimated Tier 1 capital ratio improved to 11%, up from 10.7% from the prior quarter. Tier 1 capital ratio is expected to increase after the IMD transaction with at least a $3 billion benefit from the elimination of goodwill for Neuberger. Total stockholders' equity was an estimated $28.4 billion at the end of 3Q08, up from $26.3 billion from the prior quarter.	5
9/10/08	Sandler O'Neill Partners	Problem asset concentrations are still too high and management's articulated plan to strengthen the balance sheet comes with a fair amount of execution risk. We are initially somewhat skeptical of LEH's ability to adequately capitalize REI Global.	1
9/11/08	Buckingham	While we believe LEH's capital and liquidity remains solid, even after the spin out of its commercial real estate entity, it does not appear that the rating agencies are willing to give LEH the time it needs to execute its strategic initiatives. And while we strongly disagree with the rating agencies' stance, perception is reality in this business and a significant downgrade would be very onerous on LEH's trading business.	1
9/11/08	Buckingham	Capital ratios remain solid. LEH ended 3Q08 with a Tier 1 ratio of 11% and a total capital ratio of 16.5%-17.0% (vs. a regulatory minimum of 10%). This does not include a tangible capital benefit of an estimated $4bn ($3bn reduction in goodwill and an estimated $1bn after-tax gain) related to the sale of a 55% stake in its investment management business. The sale of investment management, as well as the reduction of risk weighted assets associated with the spin off, should keep LEH's Tier 1 ratio relatively flat with the 11% this quarter based on our calculation.	2
9/11/08	Buckingham	One outcome of the threat of a downgrade could be to force LEH to raise more dilutive capital. LEH's mix of common vs. preferred could prove to be an issue, with preferred equity as a % of total equity moving to 39% on a pro forma basis (after the spin and the sale of IMD) vs. 32% in 3Q08. We believe the rating agencies typically prefer to a mix closer to 35%. To get down to 35% from our estimated 39%, that would entail an additional $2.5bn of common equity. At current prices, that would be meaningfully dilutive, forcing LEH to add an additional 357m shares. This would push our forecasted 2009 book value down to $22.80 from $31.60 (and tangible book value would be $21.80). This would also push our EPS estimate down to $2.20 from $3.10.	3

Exhibit 22
Analyst Quotes Relating to Leverage & Capital Adequacy [1]
Aug 2006 – Sep 2008

Date	Report Issuer	Quote	Page
9/11/08	Buckingham	Although in our view LEH will remain well capitalized even after the spin out of REI Global and the partial sale of the asset management business, the rating agencies do not seem willing to give LEH the time it needs to execute its strategic initiatives. And while we strongly disagree with the rating agencies' stance, perception is reality in this business and a significant downgrade would be very onerous on LEH's trading business, since most counterparties would have to reduce their trading activities with a lower rated firm. While fundamental analysis dictates that LEH is highly undervalued at $7 per share, given the uncertainty as to what the credit agencies will do and the material impact that a downgrade would have on LEH's business, we believe it is prudent to move to the sidelines and are reducing our rating to Neutral from Strong Buy.	4
9/11/08	Buckingham	LEH's long term capital position remains solid. LEH ended 3Q08 with a Tier 1 ratio of 11% and a total capital ratio of close to 17% (vs. a regulatory minimum of 10%). This does not include a tangible capital benefit of an estimated $4bn ($3bn reduction in goodwill and an estimated $1bn aftertax gain) related to the sale of a 55% stake in its investment management business. The sale of investment management, as well as the reduction of risk weighted assets associated with the spin off, should keep LEH's Tier 1 ratio flat with the 11% this quarter based on our calculation.	5
9/11/08	Citigroup	We don't see any potential liquidity issues with the Fed backstop in place and we view Lehman's strategic initiatives as an incremental positive, however confidence and perception issues are overwhelming Lehman's franchise value. … Raising capital is the best option in our view. Lehman is in an extremely tough negotiating position, however we view raising capital in the very near-term as one of the most effective options to address the perception and confidence issues surrounding LEH shares.	1
9/11/08	Ladenburg	It claims it needs no new capital but the actions it is taking, suggest that it may need at least $7 billion.	2
9/11/08	Merrill Lynch	Inv. Mgmt. sale will boost capital ratios without dilutive raise. In order to improve its capital base, in the absence of a capital infusion from an outside investor as had reportedly been sought, LEH will sell a majority stake in a portion of its Investment Management Division. Because this is still being negotiated with (apparently) several potential buyers, LEH could only say that indicative pricing clearly indicates that the $3bn in associated goodwill will be eliminated, providing a boost to Tangible and Tier-1 capital. The businesses to be partly sold include the Neuberger and Private Equity businesses, but not the Middle Market business (i.e. small institutional brokerage) or the minority hedge fund stakes.	3

Exhibit 22
Analyst Quotes Relating to Leverage & Capital Adequacy [1]
Aug 2006 – Sep 2008

Date	Report Issuer	Quote	Page
9/11/08	Merrill Lynch	Capital: Is it enough? LEH ended the quarter at 11% tier-1, slightly up from last quarter, but down from the 13.5% ratio following the capital-raise in June. However, as pointed out in our note published Monday, it's not clear that in the current market, this will be enough, particularly with the company selling an interest in Asset Management, thus giving up some of its most reliable revenues. And of course, the company plans to capitalize its CRE spin-off, REI, with $7bn or so gross of any marks between now and time of spin-off (though of course assets will transfer as well). If LEH receives $2bn of net gain on sale from its sale of Investment Management revenues, this could restore the Tier 1 to 13.7%, we estimate. Below, we will look at what happens to Book Value per share under a scenario in which they are forced to raise more capital at very low prices after another loss.	3
9/11/08	UBS	LEH Reported a Larger Than Expected Loss of $5.92 Per Share: The loss (driven by $7.8 bn of gross write-downs) was bigger than expected and there are still plenty of unanswered questions, but Lehman definitely reduced risk in 3Q (total mortgage assets declined 23% q/q) and its capital ratios (11.0% Tier 1), liquidity profile ($42 bn at the parent) and core revenues of $3.5 bn were all some version of pretty good considering the backdrop.	1
9/11/08	HSBC[2]	Through it all, there were positives in yesterday's announcement, including (1) feasible plans to reduce commercial and residential real estate exposure; (2) marks against the problem assets seem to be conservative; (3) evidence that the firm can still make money, ex-writedowns; (4) devising a creative way to raise capital off of its investment in asset management, while retaining a significant amount of its earnings; (5) no diminution of the firm's liquidity pool; (6) reduced financial leverage; and (7) a commitment to continue to explore strategic alternatives.	1
9/11/08	HSBC[2]	From a valuation standpoint, there are important distinctions that need to be made from our starting point, Bear Stearns. Lehman is a better, more diversified franchise. It is much more conservatively funded, and carries a huge liquidity pool of some $42 billion. It has access to the Federal Reserve for emergency funding.It also has one thing that it shares with Bear Stearns—it is too big to fail in our opinion. The interconnectedness of the firm within the global financial system is firmly bound. We have to believe that no regulator or central banker really wants to find out what a massive counterparty risk failure would look like.	5

Exhibit 22
Analyst Quotes Relating to Leverage & Capital Adequacy [1]
Aug 2006 – Sep 2008

Date	Report Issuer	Quote	Page
9/11/08	UBS	Plenty of Important Questions Remain: In our view, the 4 key elements of the Lehman story are; 1) are the rating agencies & regulators on board with the plan?, 2) will clients & counterparties stick around?, 3) can the commercial real estate spin (REI Global) happen according to plan (meaning pricing, structure, timing)?, and 4) does Lehman need to raise capital (publicly or privately)? ... However, given that the rating agencies may have a fairly short time horizon and Lehman's relatively weak bargaining position, we worry that market forces could lead to a reasonably dilutive capital raise/sale at some point.	1
9/11/08	UBS	Finally, we do think Lehman will need to raise common equity, publicly or privately, as we can (and will) walk you to a pro forma tangible book value of $16 and Tier 1 close to 10%, but Lehman's common-tohybrid ratio is out of whack and probably forces some balancing down the road.	2
9/11/08	UBS	Given that the plan involved reducing risk exposures and increasing capital, we think the regulators were on board and we were under the impression that the rating agencies were also OK with the steps, though they might have liked an equity raise to happen in concert as well (probably expected a deal with KDB to work out). As it turns out, the rating agencies, and Moody's in particular, do not seem to be fully enamored with the steps Lehman is taking. On a conference call yesterday, Moody's made it very clear that a meaningful capital infusion through a majority stake or an outright sale of the entire firm might be needed for Lehman to avoid being downgraded. Moody's also went on to note that a large global depository institution would be much better received than an injection from the private equity or sovereign wealth world as this is more an issue about confidence than capital.	3
9/11/08	UBS	In our view, this outlook, along with Lehman's elevated CDS spreads may force the firm's hand in trying to find a strategic partner, hopefully with deep pockets. The bottom line is, while we think the spinoff of Lehman's commercial real estate assets was in part designed to buy the firm time to raise equity (hopefully at a higher price), a lack of patience from the rating agencies and investors may shorten the window of opportunity.	3

Exhibit 22
Analyst Quotes Relating to Leverage & Capital Adequacy [1]
Aug 2006 – Sep 2008

Date	Report Issuer	Quote	Page
9/11/08	UBS	Does Lehman Need to Raise Common Equity?The most likely answer is yes, despite seemingly reasonable pro forma ratios. Still, deciphering whether or not Lehman needs to raise additional common equity is a bit tricky given all of the moving parts, but given the market perception (gapping CDS spreads), rating agencies' concerns, and lopsided common-to-hybrid equity mix, we think Lehman will seek an infusion, likely from a strategic partner that would take a significant equity stake in the firm. Interestingly, we think that if Lehman were able to complete the steps of its plan today (meaning the IMD sale and spin off closed immediately), the firm might be able to avoid raising equity as its capital ratios would be pretty healthy (the firm currently has a Tier 1 ratio of 11.0%, in line with Merrill and Goldman).	5
9/11/08	UBS	Unfortunately, given the expected mark-to-market hits in commercial real estate in 4Q and what we think will be another operating loss, coupled with the significant drain of common equity from "good" Lehman post the spin off which will tilt the common/hybrid equity mix too much in the hybrid direction, we think the firm will need an equity infusion in the coming months which will likely lead to meaningful dilution for current shareholders (unfortunately, they just don't have too much bargaining power).	5
9/11/08	Wachovia	CAPITAL REMAINS STRONG. Book value per share was $27.29 at quarter end versus $34.21 in the previous quarter. The company's tier 1 capital ratio was 11% compared to 10.7% in Q2. Gross and net leverage was reduced to 21.1x and 10.6x, respectively, and we'd expect LEH to operate at similar levels in the near term. Despite the lower equity due to the REI spin, LEH's Tier 1 capital ratio should still be maintained around 11% due to the de-risking of assets from the REI sale and equity increase as a result of the IMD sale. To maintain further capital flexibility, LEH cut its annual dividend to $0.05 from $0.68, previously. The dividend cut translates into annual savings for $450mm.	4
9/13/08	Standard & Poors Equity	The company has not been able to avoid the pitfalls of a balance sheet with too much mortgage exposure. … Despite the company's long history of earnings growth and our view of its strong global competitive position and diversification efforts, our risk assessment reflects industry cyclicality and recent outsized exposure to troubled markets, which has put the company's long-term viability in doubt.	1
9/14/08	Oppenheimer	After exhaustive efforts, no solution was reached to save Lehman Brothers as no buyers stepped up to bail out the company. As a result, it appears that Lehman Brothers will be forced into the process of liquidation and Lehman's $600 billion asset base will be in the process of being sold. ... As of the end of 3Q08, LEH reduced gross assets by approximately 6%, from $639B to approximately $600B and reduced net assets by approximately 5%, from $328B to approximately $311B. This is inclusive of the ~$64.8B of highly illiquid assets such as residential mortgages, commercial mortgages, real estate, other asset-backed, and acquisition finance facilities.	1

Exhibit 22
Analyst Quotes Relating to Leverage & Capital Adequacy [1]
Aug 2006 – Sep 2008

Date	Report Issuer	Quote	Page
9/23/08	Wachovia	In the end, LEH required time to implement its plan and shore up its capital base. However, lack of confidence from the market, pending credit rating downgrades, and loss of business led to the decision to file for bankruptcy protection, in our view.	1

Source: Analyst Reports

Note:

[1] Analyst reports reviewed include fundamental equity and fixed income analyst reports on Lehman Brothers available from Thomson Research (formerly Investext) and Capital IQ. Included in the review are a few additional reports published between July 1, 2008 and September 15, 2008 and produced in support of the Expert Report of Gregg A. Jarrell filed February 3, 2012. Quotes are formatted as they appear in original reports.

[2] Fixed income analyst report.

Exhibit 23
Lehman Brothers
Change in Net Leverage Ratio
Fiscal Q1 2006 – Q3 2008
Source: SEC Filings; Examiner's Report, Vol. 3 of 9, p. 891; Vol 8 of 9, Appendix 17, p. 12

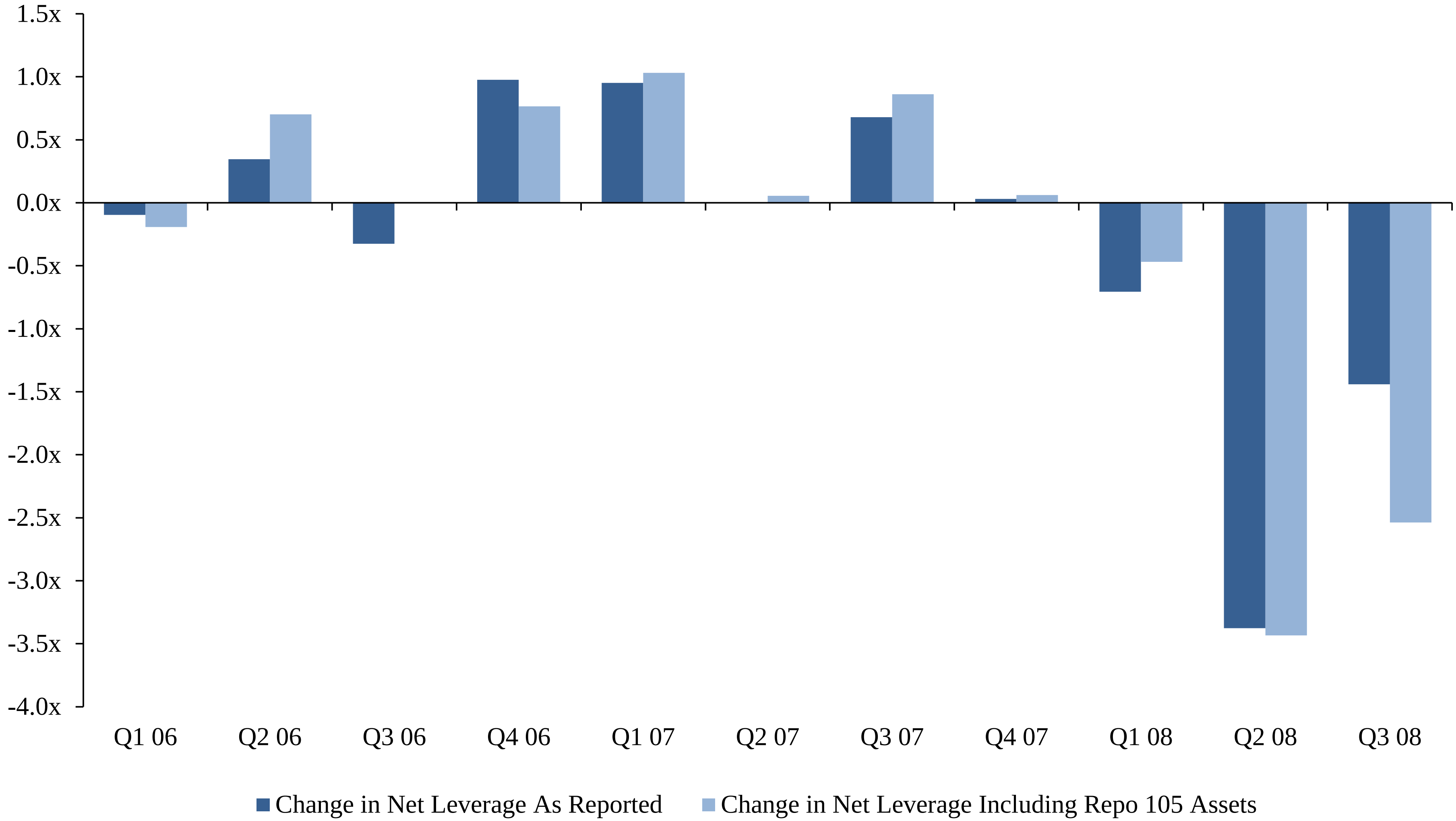
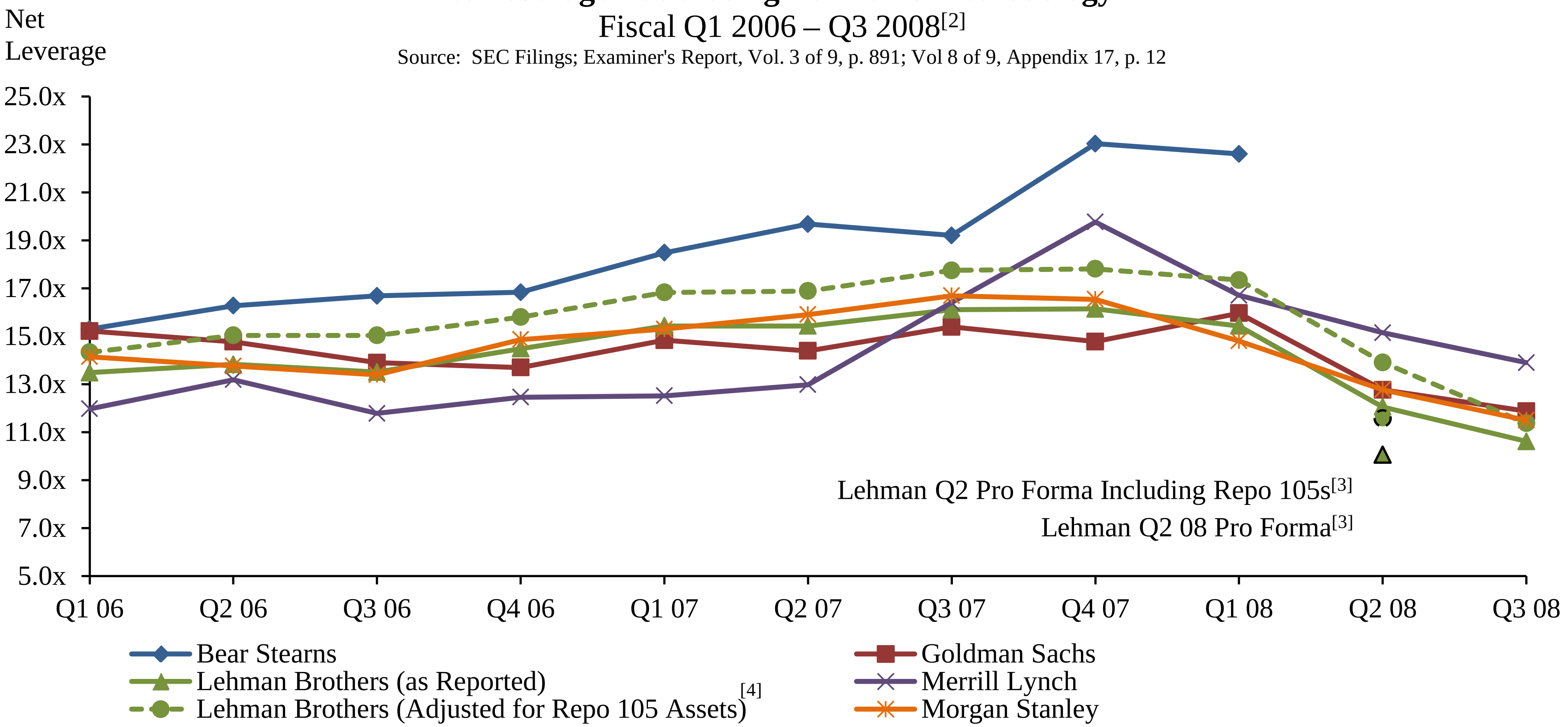


Exhibit 24
Lehman Brothers and Peers
Net Leverage Ratio Using Lehman's Methodology[1]
Fiscal Q1 2006 – Q3 2008[2]
Source: SEC Filings; Examiner's Report, Vol. 3 of 9, p. 891; Vol 8 of 9, Appendix 17, p. 12



Note:
[1] Net Leverage is defined by Lehman to be Net Assets divided by Tangible Equity Capital. Net Assets is calculated as total assets minus (i) cash and securities segregated and on deposit for regulatory and other purposes, (ii) collateralized lending agreements, and (iii) identifiable intangible assets and goodwill. Tangible Equity Capital is calculated as stockholders' equity plus junior subordinated notes minus identifiable intangible assets and goodwill. Prior to 2008, Junior subordinated notes and preferred stock are capped at 25% of Tangible Equity Capital. See, e.g., Lehman fiscal Q1 2008 10-Q, p. 72 and *PR Newswire*, "Lehman Brothers Reports First Quarter Results," March 18, 2008, p. 6.
[2] The fiscal quarter ends for all companies except Merrill Lynch are in February, May, August, and November. Merrill Lynch's quarter ends are calendar quarter ends.
[3] On June 12, 2008, Lehman Brothers issued $4 billion in common stock and $2 billion in preferred stock. The pro forma calculations conservatively assume that Lehman did not use the amount raised to pay down liabilities but kept it on the balance sheet and hence both total assets and total equity are assumed to increase by $6 billion. A review of the corporate action calendar of Lehman's peers did not reveal significant capital or equity raises in the month after Lehman's fiscal Q2 end.
[4] Consistent with the Examiner's Report, Lehman's net leverage ratio is adjusted by adding the total amount of Repo 105 assets to Lehman's net assets.

Exhibit 25
Analyst Quotes Relating to VaR and CSE Ratios [1]
Aug 2006 – Sep 2008

Date	Report Issuer	Quote	Page
3/15/07	Bernstein Research	In addition the firm confirmed that it had a "fair amount" of balance sheet exposure to the subprime mortgage market. They also disclosed a sharp increase in its balance sheet leverage and the firm took its VaR up. This is probably not the best way to calm the waters during a period of market stress.	3
3/31/08	Oppenheimer	As we wrote last week, capital ratios will be of primary focus for financial institutions during the next month of bank 1Q08 reporting. Lehman took the advice it has been giving to its clients for over the past five months in going to the markets well ahead of what it believes to be a barn rush of capital raising throughout the remainder of the year. Thus, while this capital raise is expensive on a near term historical basis, LEH and we believe it will only get progressively more expensive to raise capital as the year evolves.	1
3/31/08	Oppenheimer	Another rude awakening will likely be the need to refocus on capital ratios of the financials as net losses wipe out a material portion of new equity raised in the past three months.	3
4/9/08	Wachovia	SOLID FROM A RISK-BASED CAPITAL STANDPOINT. Management is comfortable with their leverage on a risk-based capital standpoint. LEH noted that its Tier 1 ratio is well into double digits and its total capital ratio is in the mid-teens. Both measures compare favorably to well-capitalized banks, according to management. ... $4B OFFERING WAS AN ENDORSEMENT OF LEH. ... Management noted that capital offering both helped to quell negative investor sentiment and accelerate the deleveraging exercise. Management is anticipating regulatory tightening of leverage. ... LEH is close to book value, has reduced leverage to 2005 levels, and has incremental capital. The reality is it is probably in better shape from a capital/leverage standpoint than the rest of the industry, with the exception of GS. With the capital raise that qualifies for Tier 1 capital, we believe LEH is ahead of the curve, in this respect.	1
4/14/08	Buckingham	This will be meaningfully below its competitors, where net leverage remains at 16x+ at GS, MS, and MER. Given LEH's status as the smallest remaining player among the stand alone broker/dealers, management believes it needs to be the most conservative with respect to leverage in the industry, and these actions certainly put them in that position. It is also important to point out that as the brokers rapidly approach the reporting of Tier 1 ratios in accordance with Basel II, LEH is expected to have a Tier 1 ratio that is well into the double digits and well ahead of most universal banks.	4

Exhibit 25
Analyst Quotes Relating to VaR and CSE Ratios [1]
Aug 2006 – Sep 2008

Date	Report Issuer	Quote	Page
5/8/08	UBS	There was a conscious choice to have high-quality investors (domestic, long-only) to show that the smart money was betting on Lehman to withstand the downturn and prosper going forward. As a result, the market reacted favorably, Lehman's leverage came down, and management now spends much less time talking to counterparties and can focus on managing the businessPost the capital raise Lehman's Tier 1 ratio is "well in excess of their targets" and they are confident their ratio will compare favorably with broker peers. Keep in mind, however, that Tier 1 for the brokers is not apples-to-apples when comparing with commercial banks, as the brokers are operating under Basel II and the commercial banks are not.	2
6/10/08	Merrill Lynch	$6bn capital raise should ensure strong capital ratios. We estimate a Tier 1 ratio under B-II of ~12%, putting it on par with some of the best capitalized large banks; tangible equity/total assets now 3.7%.	1
6/10/08	Merrill Lynch	The capital raise means the firm will be "strongly" capitalized, even after the loss. We estimate tier-1 capital under the new Basel II framework (CSE) will be around 12% of Risk Weighted Assets (RWA), or about 10% before the capital raise. We estimate the tangible equity/assets ratio will improve to 3.7% from 3.1%.	3
6/17/08	Oppenheimer	Management estimates that Tier 1 capital ratio will be over 10% at May 31st and total capital ratio over 15% (both ratios are prior to recent $6 billion capital raise). These ratios will increase with the recent capital raise. Accounting for the recent capital raise, the total capital ratio is estimated to be not less than 19% and Tier 1 capital will not be less than 12.5%.	4
6/17/08	UBS	For now, given the high enough capital ratios (12.5% pro forma Tier 1), better (but not perfect) granularity around pricing and lack of new news (Lehman specific that is – the environment still isn't great), we think Lehman's stock can settle in here and even rise closer to stated book (not tangible, Neuberger is worth more) as the shorts get a little impatient. Longer term, we think the jury is still out related to Lehman's marks, business mix, and earnings power, and even the business model in general, as the industry tries to digest what just happened and sorts out the future structure of regulation, disclosure, and what kind of leverage, capital, and liquidity metrics these companies should operate under.	2

Exhibit 25
Analyst Quotes Relating to VaR and CSE Ratios [1]
Aug 2006 – Sep 2008

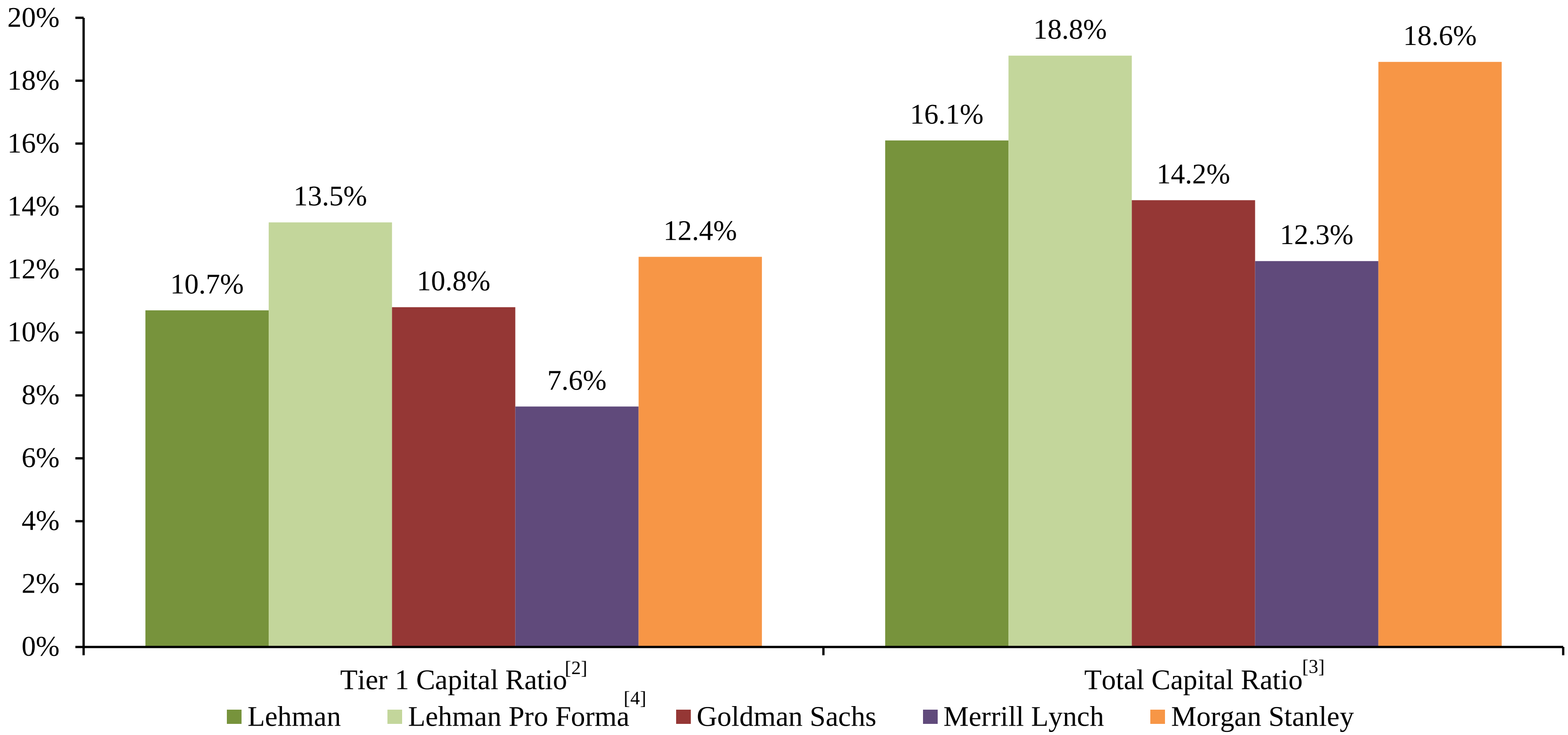
Date	Report Issuer	Quote	Page
7/24/08	Morgan Stanley	Tier 1 Capital Ratio, a primary metric for regulators to assess broker capital positions, would still remain above 10% (which compares favorably with MER at 9.7%). In terms of the denominator, each $20bn reduction in RWAs from 2Q08 level of $217bn boosts Tier 1 Ratio by 100bps.Adjusted leverage ratio of 25x is also not necessarily excessive, particularly if higher leverage was accompanied by a reduced risk profile as commercial mortgage inventory was marked down in conjunction with asset sales; also, total assets calculation only assumes a $20bn decline in assets, which is conservative.	4

Source: Analyst Reports

Note:

[1] Analyst reports reviewed include fundamental equity and fixed income analyst reports on Lehman Brothers available from Thomson Research (formerly Investext) and Capital IQ. Included in the review are a few additional reports published between July 1, 2008 and September 15, 2008 and produced in support of the Expert Report of Gregg A. Jarrell filed February 3, 2012. Quotes are formatted as they appear in original reports.

Exhibit 26
Lehman Brothers and Peers
CSE Ratios
Fiscal Q2 2008[1]
Source: SEC Filings; Citi Report dated 7/14/08



Note:
[1] Fiscal Q2 ends on 5/31/08 for Lehman and Morgan Stanley, 5/30/08 for Goldman Sachs, and 6/27/08 for Merrill Lynch.
[2] Tier 1 Capital Ratio is calculated as the Tier 1 Allowable Capital divided by the Total Risk-Weighted Assets (including Credit Risk, Market Risk, and Operational Risk).
[3] Total Capital Ratio is calculated as the Total Allowable Capital (including both Tier 1 and Tier 2 Allowable Capital) divided by the Total Risk-Weighted Assets (including Credit Risk, Market Risk, and Operational Risk).
[4] The Pro Forma ratios are per Citi's estimates after taking into account Lehman's capital raise in June 2008.

Exhibit 27

Net Leverage Regression Summary [1]

BHC and FHD with Assets Greater than $500 Million

February 2007 – August 2008

							Net Leverage Ratios[2]						
	Earnings Per Share	**Loan to Total Assets**	**Loan Loss Reserve to Total Loans**	**Non-Interest Income to Net Income**	**Unused Loan Commitments to Total Loans**	**Total Standby Letters to Total Loans**	**Total**	**Assets Backed by U.S. and Local Governments[3]**	**Not Related to Assets Backed by U.S. and Local Governments**	**Related to Repo 105 Assets[4]**	**Not Related to Repo 105 Assets**	**Book to Market**	**Market Capitalization**
1. Total Net Leverage Ratio													
Mean	0.0106	-0.0043	-0.0214	0.0074	0.0059	0.0009	-0.0037					-0.0124	0.0067
Std Error	0.0049	0.0043	0.0057	0.0058	0.0036	0.0029	0.0048					0.0089	0.0216
T-Stat	**2.1410**	-1.0138	**-3.7487**	1.2891	1.6034	0.3120	-0.7632					-1.4004	0.3114
2. Net Leverage Ratio Split into Portions Related to and Not Related to U.S. and Local Governments [2]													
Mean	0.0109	-0.0045	-0.0209	0.0075	0.0057	0.0012		-0.0017	-0.0059			-0.0124	0.0065
Std Error	0.0054	0.0044	0.0056	0.0059	0.0040	0.0032		0.0045	0.0027			0.0091	0.0212
T-Stat	**2.0181**	-1.0339	**-3.7138**	1.2587	1.4266	0.3568		-0.3769	**-2.1792**			-1.3588	0.3046
3. Net Leverage Ratio Split into Portions Related to and Not Related to Repo 105 Assets [3]													
Mean	0.0097	-0.0011	-0.0210	0.0066	0.0054	0.0003				0.0038	-0.0080	-0.0125	0.0069
Std Error	0.0055	0.0043	0.0058	0.0054	0.0034	0.0029				0.0072	0.0029	0.0087	0.0213
T-Stat	1.7440	-0.2460	**-3.6577**	1.2251	1.5812	0.1129				0.5196	**-2.7730**	-1.4379	0.3238

Source: Chicago Federal Reserve; New York Federal Reserve; *CRSP*; Michael J. Cooper, et, al., Evidence of Predictability in the Cross-Section of Bank Stock Returns, Accepted October 15, 2001; SEC Filings; Public Press

Note:

[1] T-Stat greater than 1.96 (in absolute value) is bolded and highlighted in red. Variables with such T-Stats are considered statistically significant at the 95% level.

[2] Net leverage ratios are calculated per Lehman's methodology. Lehman defines the ratio to be Net Assets divided by Tangible Equity Capital. Net Assets is calculated as total assets minus (i) cash and securities segregated and on deposit for regulatory and other purposes, (ii) collateralized lending agreements, and (iii) identifiable intangible assets and goodwill. Tangible Equity Capital is calculated as stockholders' equity plus junior subordinated notes minus identifiable intangible assets and goodwill. Junior subordinated notes and preferred stock are capped at 25% of Tangible Equity Capital, consistent with Lehman's methodology described in Lehman 2007 10-K (p. 30).

[3] Assets Backed by U.S. and Local Governments includes U.S. Treasury securities, US government agency obligations, and securities issued by states, and excludes agency MBS. For related trading assets, only those in the domestic offices are considered.

[4] Assets Related to Repo 105 Assets includes Asset Backed by U.S. and Local Governments, MBS issued or guaranteed by U.S. Agencies or government-sponsored agencies, other debt securities (both domestic and foreign), and investments in mutual funds and other equity securities with readily determinable fair values. For related trading assets, only those in the domestic offices are considered.

Exhibit 28
Analyst Quotes Relating to Liquidity [1]
Aug 2006 – Sep 2008

Date	Report Issuer	Quote	Page
4/11/07	Deutsche Bank	"**The biggest issue seems related to potential cyclical pressures in fixed income activities**… Yet, it is tough for us to get a sense of the magnitude of this opportunity or the degree of risks should liquidity dry up somewhat. There are still possibilities that recent subprime mortgage problems spill over to other areas. The bigger concern is that credit spreads widen from abnormally low levels. If so, there is the risk that areas of Lehman's greatest contributing businesses, fixed income trading, could feel pressure."	3
6/12/07	Punk Ziegel & Co.	The other change at Lehman revolves around greater use of the firm's capital in its various businesses. Historically, Lehman, along with its peers, avoided committing too much capital in any of the sectors where the company operated. The firm remained very liquid and could reverse direction with the markets when they changed. This is no longer the case. Lehman invests along with its clients. Plus, it has vertically integrated in its primary businesses and it is investing in facilities. ... Lehman is extended in ways the company never experienced before. If the markets weaken the company cannot liquefy its position rapidly.	1
6/13/07	CIBC	Liquidity Risk: An extended interruption in liquidity will have a materially adverse impact on earnings.	9
8/6/07	CIBC	Liquidity Risk: An extended interruption in liquidity will have a materially adverse impact on earnings.	2
8/28/07	CIBC	Liquidity Risk: An extended interruption in liquidity will have a materially adverse impact on earnings.	3
9/5/07	Citigroup	Company-specific risks include...lack of financial liquidity in the event of shock type events.	5
9/11/07	UBS	Despite the tough operating environment, mgmt remains pretty confident in LEH's ability to weather the current financial storm as they remain focused on risk & liquidity management, and feel that Lehman's franchise has ample product and geographic diversification to offset some of the slowdown in mortgage and areas in credit such as leveraged lending....	1
9/11/07	UBS	At the end of the day, markets run on credibility and confidence, and management noted that there is a shortage of both right now as investors don't trust credit ratings, mark-to-model pricing, or a lot of what is being expressed by broker management teams in regard to risk management and balance sheet exposures. From our point of view, while there are some deep pockets of liquidity out there, it seems like investors won't get over this lack of confidence until they see some leveraged lending deals get cleared, see how 3Q shakes out (we think 3Q will show a wide range of results given the different business mixes, and we think Lehman will generate a respectable ROE in the mid-teens), and also see what the Fed/economic data does next.	2
9/18/07	CIBC	Liquidity Risk: An extended interruption in liquidity will have a materially adverse impact on earnings.	8
9/18/07	Citigroup	Company-specific risks include...lack of financial liquidity in the event of shock type events.	5
9/18/07	JPMorgan	A key concern going into the earnings release was what marks Lehman would take on its investment and trading portfolio given the lack of liquidity for certain securities.	2

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9/19/07	NAB Capital[2]	With $36bn of liquidity at the holding company level ($26bn as at 2Q07), Lehman's stated its liquidity position is as strong as ever.	1
9/19/07	UBS	[T]hey can grow book at a pretty reasonable clip and generate solid ROEs in the mid-to-upper-teens and continue to manage risk effectively (mgmt noted that the firm's liquidity profile has never been stronger).	3
9/19/07	Wachovia	STRONG LIQUIDITY POSITION. Increased leverage levels was another concerning factor in the quarter. Leverage loans and mortgage positions were partially responsible for the Company's assets climbing 8% sequentially to $656 billion. The firm saw its net leverage increase to 16x at the end of the period, up from 15.4x in 2Q07. However, the firm's liquidity position remains solid, in our view. Lehman increased its liquidly (sic) pool by $10 billion sequentially to $36 billion at the end of the period, which adequately positions the firm to fund its commitments and to cover cash outflows for a 12-month period. This leaves LEH with a record cash surplus. Further cushion is accessible in $50 billion of unencumbered collateral available to the holding company and an additional $50 billion in unencumbered collateral in their regulated banks and broker dealers.	3
11/11/07	UBS	A lot of focus has been placed on Level 3 assets at the brokers and banks as these buckets have grown significantly given the lack of liquidity in the structured credit market (Lehman's Level 3 assets represented 160% of the firm's equity base at the end of 3Q), and we think Lehman did a good job giving some color on what is included in their Level 3 bucket and why it's not all "bad" stuff.	
11/13/07	UBS	No doubt, risk usage is up at LEH and peers (can't sell anything lately and volatility has increased), but mgmt has moved some ABX hedges into single name CDS to avoid liquidity & basis risk, it has been very diligent on CDS counterparty risk, and is being attentive to counterparty risk in relation to the monoline insurers.	1
11/13/07	UBS	While we have a lot of confidence in Lehman, we can't deny the fact that risk usage is up at the company (and the rest of the brokers) given its bigger balance sheet (and large mortgage inventory), elevated market volatility and evaporating liquidity, greater real estate investments (residential & commercial), and the increased difficulty in securitizing or selling off mortgage-related assets (remember, Lehman has been a big mortgage originator for years).	2
11/28/07	CIBC	Liquidity Risk: An extended interruption in liquidity will have a materially adverse impact on earnings.	3
12/12/07	CIBC	Liquidity Risk: An extended interruption in liquidity will have a materially adverse impact on earnings.	7
12/13/07	CIBC	Liquidity Risk: An extended interruption in liquidity will have a materially adverse impact on earnings.	17
1/15/08	Wachovia	LEH is more focused on balance sheet flexibility and liquidity. Capital allocation is critical at this juncture, in our view, since many LEH businesses see opportunities given the market dislocation. LEH does not need to raise equity like some of its competition.	1
1/15/08	Wachovia	BALANCE SHEET FLEXIBILITY IS KEY. ... Obtaining unsecured financing is difficult in the current environment. LEH has opted for shorter term capital at wider spreads in the interim.	2

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1/28/08	Oppenheimer	Liquidity Risk: An extended interruption in liquidity will have a materially adverse impact on earnings.	4
2/27/08	Buckingham	LEH has by far the largest exposure among the investment banks to commercial real estate – roughly double the next largest competitor.	2
2/28/08	Bernstein	based on available disclosures, Lehman Brothers is the most exposed to Commercial Mortgage Backed Securities as a % of tangible equity. Lehman has $39.5 billion of this gross exposure and Morgan Stanley has $31.5 billion.	2
3/10/08	Oppenheimer	Liquidity Risk: An extended interruption in liquidity will have a materially adverse impact on earnings.	6
3/17/08	Deutsche Bank	Lehman is Not Bear. 1) It has more liquidity (below). 2) It has support among its major counterparties, evidenced by an extention on Friday of a $2B working capital line with 40 banks (one issue w/Bear Stearns [BSC] seems to be that counterparties pulled in lines). ... The industry issue seems more liquidity than solvency, and LEH protected itself more fully after it's problems similar to BSC in 1998. At year-end, it had $35B of excess liquidity combined with $63B of free collateral, implying $98B available for liquidity, or $70B more than needed for $28B of unsecured short-term debt (which includes the current portion of long-term debt). While it also has $180B of repo lines, we take comfort that 40 banks extended credit on Friday and believe that some of the repos are likely to be termed at least to some degree.	1
3/18/08	Credit Suisse	The firm’s liquidity position remains strong with $34Bn in the liquidity pool, $64Bn of unencumbered assets, and an additional $99Bn at the regulated entities. Bottom line… the facts are better than the fears; the quarter was fine; exposures are coming down, slowly, liquidity is strong.	1
3/18/08	Deutsche Bank	The firm's liquidity position does not seem to have changed materially since year-end, with $193B in liquidity reserves and unencumbered assets as of 3/17/08. Lehman noted in their call that they had not lost any counterparty relationships in the wake of Bear's troubles. LEH is about 2/3rds completed w/ its annual financing needs ($16B raised) for the year. LEH plans to access the Fed facility in the future, given favorable rates.	1
3/18/08	Fox-Pitt, Kelton	[W]e suspect Lehman’s stock will still trade with significant volatility as the company’s liquidity is a focus following the debacle at its closest peer.	1
3/18/08	Morningstar	Liquidity remains the number-one concern at investment banks, given the collapse of Bear Stearns. We discussed these liquidity concerns in a note Monday. On their respective conference calls, Lehman and Goldman Sachs stressed that their liquidity positions remain strong. Nevertheless, investors should take into account the risk before considering a purchase. Lehman gave a detailed account of its liquidity position as of the close of business Monday. It said it has not lost any repurchase financing and has repaid half of its commercial paper outstanding since quarter-end; about $4 billion remains outstanding today. Both firms said they expect to use the primary dealer credit facility created by the Federal Reserve over the weekend--because it is an attractive source of financing, not out of an emergency need for additional liquidity. Historically, banks have shied away from using the Federal Reserve's discount window as it has been perceived as a sign of weakness.	1

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Date	Report Issuer	Quote	Page
3/18/08	Oppenheimer	Not a moment too soon, Lehman dispelled all doubts of a solvency crisis at the company by reporting better than expected first quarter results. The quarter's results also provided greater disclosure on liquidity and exposures that until now had not been provided to such detail.	2
3/18/08	Oppenheimer	Management finds the rate and margin levels of the new collateralized lending facility for primary dealers very attractive and expects the dealer community to actively begin accessing the new program. LEH views the new program as an opportunity to do more business for clients rather than as a de-leveraging opportunity.	4
3/18/08	Oppenheimer	Over the quarter, the company took down leverage. The net leverage ratio (net assets / tangible equity capital) dropped to 15.4x vs. 16.1x at 4Q07 end. The leverage ratio (total assets / total stockholders' equity) stood at 31.7x vs. 30.7x at 4Q07 end. As-of 1Q08, the liquidity pool (cash and cash equivalents) was $34 billion and unencumbered assets of $64 billion, with an additional $99 billion at regulated entities. As-of 3/17/2008, the liquidity pool fell to $30 billion due to a reduction of $4 billion of commercial paper holdings. According to management, the company has minimal reliance on commercial paper, short-term unsecured financing, or assetbacked commercial paper programs. The company has no reliance on secured funding supported by whole loans or other esoteric collateral. Moreover, the company has not lost any repo funding capability.	4
3/18/08	Oppenheimer	Liquidity Risk: An extended interruption in liquidity will have a materially adverse impact on earnings.	15
3/18/08	Punk Ziegel & Co.	Investors believe that this company might be the next candidate for bankruptcy in the brokerage arena. This thought process emanates from the view that Lehman's business model is like Bear Stearns (BSC/$4.81/Market Perform) and that the Federal Reserve offer of liquidity carries no substance. Every element of this thinking may be wrong and shows a total lack of understanding of both Lehman and what is happening in the financial markets at the present time.	1
3/18/08	Punk Ziegel & Co.	Bear only began to lengthen its maturities when it became troubled. Lehman has more equity and long-term debt as a percent of assets. Lehman has a larger proportion of its assets in productive places. Lehman is not Bear Stearns by any measure. Further, the Federal Reserve has promised to provide whatever funding that may be required to keep primary dealers liquid. Thus, anyone attacking Lehman would have to be able to bankrupt the Fed to break Lehman. An attack on Lehman or any other primary dealer is an attack on the Fed. To assume that Lehman would fail means that one assumes the Fed will not or cannot honor its commitments. This is a bad bet to make.	1
3/18/08	UBS	That said, while liquidity is fine & that issue should be put to rest, the backdrop is still challenging & some will still be wary of LEH's total exposures & question the gross marks in the quarter – which will weigh on valuation. … Positives in the Quarter ... Liquidity position remains strong.	1

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3/19/08	JPMorgan	Lehman Brothers (LEH) and Goldman Sachs (GS) both reported earnings that beat street estimates, but we note that estimates have been reduced significantly over the last month. That said, given the events of the last week the announcements should be positive for spreads. We will focus more on liquidity and the marked to market write downs for high risk assets since that is our paramount concern.	
3/19/08	Punk Ziegel & Co.	There was a very detailed discussion of the company's assets and a table provided to demonstrate that the write downs being taken were manageable. Very important in this discussion was the explanation of the various actions that the firm took through effective risk management to lower the actual loss.	
3/19/08	UBS	As good as Lehman has been at managing its exposures, we still have some concerns about the shear [sic] size and composition of the $31.8 billion of residential mortgage position ($14.8 billion of mostly Alt-A) and $31 billion of commercial mortgage position (Lehman sold $5 billion worth post the end of the quarter) on their books at a time when it seems that the illiquidity and deleveraging trends will continue in the face of a weakening economy.	3
3/19/08	Buckingham	Liquidity also remained strong, with the company's liquidity pool and unencumbered assets remaining flat with 4Q levels despite a $4 billion pay down of its commercial paper program. We also received much more detailed information on LEH's mortgage book, with total residential and commercial mortgage exposure falling 11% sequentially (although still sizable). And lastly, net leverage was brought down to 15.4x vs. 16.1x in the previous two quarters. All in, we believe the better than expected revenues, despite a challenging quarter, as well as the incrementally positive added disclosures surrounding the balance sheet all helped the stock recover meaningfully.	2
3/19/08	Buckingham	Liquidity position as of yesterday did not change materially from the end of 4Q. Cash was down to reflect the repurchase of commercial paper, but that was offset by a roughly similar $4 billion increase in unencumbered assets. In total, cash was $30 billion and unencumbered assets (which LEH can loan out for cash) were $163 billion. We calculate total liquidity by placing a 15% haircut on the unencumbered assets and adding that to cash – i.e. $169 billion in available liquidity. Management also noted that nearly all of the unencumbered assets are able to be pledged to the Fed for cash under its new lending facility for primary brokers. And again, as we discussed in our report on Monday regarding broker liquidity, LEH has the best liquidity position among all of the brokers when looking at potential drains on cash from short-term debt, repo financing, and customer balances.	3
3/19/08	Fox-Pitt, Kelton	Mgmt's liquidity disclosures were extensive and comforting, while risk mgmt continues to be strong at Lehman. We continue to believe Lehman is significantly oversold, and has little chance of fundamental problems, though the same was true for Bear (BSC-$5.91-Outperform), in our view, before fear-mongering created a run-on-the bank. We are not updating future estimates at this time.	1

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3/19/08	Fox-Pitt, Kelton	The holding company had a liquidity pool (cash/cash equivalents) of $34 bil. at 1Q08-end, and $30 bil. as of yesterday. Unencumbered assets were $64 bil. at the holding company and $99 bil. at regulated entities. Mgmt stated that Lehman had minimal reliance on CP funding, no reliance on secured funding supported by whole loans or esoteric collateral. Total repo was $215 bil.	2
3/19/08	JPMorgan	LEH provided detail on funding sources in an effort to maintain confidence and avoid Monday's heightened concerns around liquidity. LEH told investors that it has minimal reliance on CP, ST unsecured financing, or ABCP. The holding company liquidity pool was $30B corresponding to a cash capital surplus of $5B as of 3/17/08, well above the target levels and in line with FY07 year-end levels. LEH also said it would access the Fed.	1
3/19/08	JPMorgan	We will focus more on liquidity and the marked to market write downs for high risk assets since that is our paramount concern. The new fed facility reduces our liquidity concerns, but the sector continues to face headwinds from illiquidity in the credit markets.	1
3/19/08	JPMorgan	Liquidity is strong and we are less concerned about Lehman counterparty risk given its size and diversity. That said, we were disappointed with Lehman's writedowns on illiquid assets and don't believe they were sufficient given the move in underlying assets.	1
3/19/08	JPMorgan	LEH has $30 billion in its parent company liquidity pool while GS has highly liquid unencumbered assets in excess of $60 billion. Both firms have reduced their reliance on commercial paper and GS has termed out much of its repo funding.	1
3/19/08	JPMorgan	Primary Dealer Credit Facility (PDCF) … The PDCF is positive for broker/dealers as they rely heavily on overnight funding in the repo market. However, the fact that the Fed had to take such a drastic measure highlights just how difficult the environment has become.	1
3/19/08	JPMorgan	LEH had a parent company liquidity pool of $34 billion at the end of February. The liquidity pool was $30 billion at the end of the day Monday due to a $4 billion reduction in commercial paper since the end of the quarter. The cash capital surplus at the holding company, which measures the difference between long-term funding sources and long-term funding requirements, was $7 billion at the end of the quarter and $5 billion as of Monday's close. The firm had unencumbered assets of $64 billion at the holding company and $99 billion at the regulated entities at quarter end.	2
3/19/08	JPMorgan	LEH said on the call that it has not lost any of its rep[o] funding capacity. Total repo was $215 billion at quarter end, much of which is eligible to be pledged under the new PDCF. Client cash balances totaled $5 billion at the end of the quarter and LEH does not use client cash to fund the firm's assets. However, management did acknowledge that this number has come down since the end of the quarter. Additionally, LEH announced a $2 billion unsecured facility Friday afternoon with a funding cost of L + 60.	2

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3/19/08	Morningstar	Like all investment banks, Lehman is highly leveraged. Assets are about 30 times equity. Investment banks' dependence on repurchase agreements to fund assets became a concern after the failure of Bear Stearns. Lehman has $215 billion in repo financing; however, it mitigated concerns after it disclosed that it has $64 billion in unencumbered assets it could use to support this financing.	3
3/19/08	Punk Ziegel & Co.	Ms. Callan first demonstrated that Lehman had ample liquidity. Its cash position and its readily liquid assets may be just under $100 billion. Additionally, the company has another $99 billion in assets that could be used with the Fed if the need ever arose.	1
3/19/08	UBS	Still, while we think mgmt did a good job of putting the liquidity issue to bed, LEH still has considerable mortgage exposure (~$63 bn), deleveraging is likely to continue & the overall economic and earnings environment remains challenging.	1
3/19/08	UBS	However, while it's great to see some stability (especially on the liquidity front), don't get too excited just yet, as the charges were there and may continue for a while given Lehman's extensive exposures, a continued weak housing market and still very difficult operating environment. Additionally, we still have concerns that the de-leveraging in the system will continue and that multiples among the brokers will be constrained by the earnings environment, as well as questions around the optimal leverage, liquidity and potential returns of the model going forward.	2
3/19/08	UBS	In addition, we think management did a very good job of putting the liquidity question to bed by pointing out the benefits of the recently announced Fed repo facility for primary dealers (which Lehman has not yet tapped) and also highlighting Lehman's sizable liquidity pool ($30 billion) and unencumbered capital ($64 billion at the parent company and $99 billion at Lehman's regulated entities – though, mind you, plenty of this is mortgagerelated). Finally, we think Lehman's capital position is further enhanced by the fact that they have already completed more than two-thirds of their 2008 funding needs, using a combination of medium-term notes (the average tenor of Lehman's long-term borrowings is now 7 years), non-U.S. issues, structured notes, and preferreds.	2
3/19/08	UBS	Looking ahead, as good as Lehman has been at managing its exposures, we still have some concerns about the shear size and composition of the $31.8 billion of residential mortgage position ($14.8 billion of mostly Alt-A) and $31 billion of commercial mortgage position (Lehman sold $5 billion worth post the end of the quarter) on their books at a time when it seems that the illiquidity and deleveraging trends will continue in the face of a weakening economy.	3
3/19/08	Wachovia	CFO ANSWERS SOME LIQUIDITY QUESTIONS. LEH's liquidity pool at quarter end was $30 billion, slightly lower than last quarter. In addition, LEH still had $164 billion in unencumbered liquidity at both regulated and unregulated entities. Management indicated that they have not accessed the window but would if it made optimal sense. LEH has $100 billion that can be pledged to the Fed. Note LEH has already pre-funded 2/3 of its capital needs for the year.	1

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Date	Report Issuer	Quote	Page
3/19/08	Wachovia	LEH's liquidity pool at quarter end was $30 billion which was reduced in the quarter by $4bn due to a decline in commercial paper. In addition, LEH still had $164 billion in unencumbered liquidity at both regulated and unregulated entities. Both amounts of unencumbered assets were unchanged from Q4. Management indicated that they have not accessed the window but would if it made optimal sense. LEH has $100 billion that can be pledged to the Fed. A liquidity squeeze at brokers is largely off the table in light of the unprecedented Fed move.	2
3/23/08	Oppenheimer	While LEH's core franchise was not solely mortgages, no doubt the industry at large will be hurt from the deleveraging associated with said asset bubble. For Lehman specifically, this translates into lower structured product sales globally, a balance sheet tie-up with illiquid assets, and a protracted environment of mark to market adjustments associated with those write-downs.	1
3/27/08	Morningstar	Continued vague concerns regarding Lehman's liquidity position have persisted on and off since the downfall of Bear Stearns almost two weeks ago. Lehman appears fundamentally strong today and reported respectable first-quarter results given the current turmoil--nevertheless concerns refuse to dissipate. However, we currently rate all the investment banks as speculative due to the distress in the markets. Investors uncomfortable with risk should avoid Lehman's (and its peers') shares. We will not completely rule out the possibility of another bank failure; however, Lehman's balance sheet does not appear to us to be weak. Moreover, the Federal Reserve's creation of the primary credit dealer facility has provided a backup lending source mitigating the possibility of another collapse.	1
3/27/08	Morningstar	At the end of the first quarter, Lehman reported it maintained a liquidity pool of $34 billion and that it had $163 billion of unencumbered assets against which it could borrow. At year-end, Lehman relied on $182 million of repurchase agreements for financing--an amount below the sum of its liquidity pool and unencumbered assets. Therefore, Lehman should be able to meet creditors' demands for additional collateral requirements or be able to pay off any terminated agreements. Additionally, Lehman could substitute financing from the newly created primary dealer credit facility to close out any expiring or terminated repurchase agreements. Finally, Lehman's CFO Erin Callan stated on Lehman's recent conference call that Lehman does not use free credit balances from its prime brokerage business to finance any assets--Bear Stearns' use of free credit balances was part of the reason for its collapse, as it lost needed funding as its prime brokerage clients pulled assets from the firm. ... We think the current liquidity concerns appear overblown.	1

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3/28/08	Citi	In our view, it's tough to have a liquidity-driven meltdown when you're being backed by government entities that have the ability to print money. Lehman has ample liquidity to run its business. With $34b in liquidity at the parent company, the ability to get access to over $200b in liquidity from the Fed's primary dealer credit facility, and its ability to tap the term auction facility, access to liquidity is a non-issue. Actions speak louder than words and in a post Bear Stearns era, the coordinated Fed & Treasury actions are designed to prevent a crisis of confidence leading to liquidity issues for any of the major investment banks. The liquidity backstop buys the time necessary to restore confidence and quell fears that are not based on fundamentals. It's worth noting that Lehman has not used the facility other than the initial $2b test run.	1
3/28/08	Citi	The primary driver of our upgrade is our view of the excellent risk/reward in Lehman shares based on a combination of its earnings power and our view that it has an excellent liquidity position. … Company-specific risks include subpar performance in trading related businesses, declining business performance as a result of losing talent, risk management and lack of financial liquidity in the event of shock type events.	4
3/31/08	Oppenheimer	As mentioned in the 1Q08 earnings conference call, LEH continues to "prefund" their liquidity needs as the company believes long-term debt will be harder to obtain throughout 2008. By the end of 1Q08, LEH executed two-thirds of the full year capital plan or $21 billion ($19 billion of long-term debt and $1.9 billion of preferred stock). With the $3 billion issuance of convertible preferred stock announced on Monday, roughly $7 billion of capital is left to be raised as part of the full year capital plan.	2
4/1/08	Citi	In our view, management made the decision to protect the downside risk that could result from a loss of confidence driven by perception issues. The new capital raise should put the perception issues to rest and the focus will now be on the upside potential inherent in the franchise and the compelling valuation. ... We continue to see up to 70% upside in LEH shares and any potential concern around the capital and liquidity position of the franchise should be put to rest.	1
4/1/08	Citi	Company-specific risks ... lack of financial liquidity in the event of shock type events.	4
4/1/08	Deutsche Bank	We don't like the idea of earnings dilution by 1/10th forever, but the stock, in our opinion, has been trading in the past week on fears related to liquidity/capital more than EPS, in our view, and this new issue should help alleviate these concerns.	1
4/1/08	Deutsche Bank	We still expect Lehman to de-lever its balance sheet. However, to us, the new capital of $3B (vs. book value of $23B), can be viewed as alleviating the need for any such deleveraging urgently. Our estimates do NOT assume earnings on the new $3B of capital raised which, if achieved, could mean that we need to increase our estimates by perhaps 20-25 cents (assuming a 6%-7% pre-tax return). LEH's move today hurts earnings but helps to convey a message that it will take proactive measures to help ensure that it controls its own destiny relative to a downward spiral scenario that involves rumors leading to illiquidity.	1
4/1/08	Deutsche Bank	The move helps Lehman to show that it can raise large amounts of capital in a matter of hours, which can help alleviate concerns about capital and liquidity.	1

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4/1/08	JPMorgan	We think the capital raise is positive for the company improving liquidity in a paranoid market and likely easing customer concerns. … - Capital raise indicates strong investor interest. Despite LEH's efforts to restore customer confidence and avoid heightened concerns during its 3/18 earnings call, the markets have continued to question LEH's liquidity. However, strong institutional investor interest in this offering, which we hear was well oversubscribed, indicates investor confidence in Lehman. Whether it was capital constrained or not, LEH was able to raise capital which should lead to greater customer confidence.	1
4/1/08	Punk Ziegel & Co.	All in all, the picture is one of concern. It is for this reason that Lehman is committed to building its long-term capital base. In so doing the firm hopes to quell fears of its viability. Moreover, the recent proposals by Treasury Secretary Paulson make it evident that the company, along with all brokers, may be forced to delever their balance sheets. The company has built up a sizable cash hoard to meet short-term needs. It has an estimated $31 billion in cash and another $65 billion in short-term unencumbered assets. In theory this means that Lehman can quickly access almost $100 billion in cash to meet market demands. In sum, it seems evident that Lehman is being pushed hard by the markets to prove its balance sheet is safe. By raising additional capital and liquefying the balance sheet, the company hopes to put these fears to rest.	1
4/1/08	UBS	While the issuance (at book) likely raises concerns for some, it should also provide stability as we think EPS dilution is a small price to pay to bolster capital base & liquidity and help keep perception issues at bay.- Impact to EPS, ROE, Book, Gross Leverage & Net LeverageWe estimate ~10% EPS dilution (depending on deal size & use of proceeds), a small increase to ROCE, no real change to book value per share and reductions to the net leveraged ratio of 110-150 basis points (was 15.4x at qtr-end) & 340-430 bps decrease to the gross leverage ratio (was 31.7x at quarter end).	1
4/1/08	UBS	- Reasonable Insurance Policy To Take On At This Valuation While some may feel there could be larger write-downs or further liquidity pressure on the way, we actually think Lehman's CDS spreads could tighten given the capital boost and some pressures in the repo market could abate, even though many of Lehman's counterparties are in the process of de-leveraging themselves. Talk about having some dry powder for investment opportunities may be premature, in our view. - Valuation: Neutral, But Floor Should Be Forming Stock could be putting in a floor here around book as LEH & the Fed help improve the capital, liquidity & leverage issues.	1

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Analyst Quotes Relating to Liquidity [1]
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4/1/08	Wachovia	ISSUANCE EASES LIQUIDITY FEARS. LEH has been trading on liquidity fears, in our view, not earnings. With the additional $4bn, we believe fears over liquidity will continue to be reduced. On a pro-forma basis, LEH's adjusted leverage ratio would decline to 13.5x, from 15.4x last quarter. The 13.5x would be the lowest since Q1 2006.	1
4/9/08	Deutsche Bank	While liquidity seems okay, we continue to expect more write-downs to equity (est. $2B in 2Q08) and tougher revenues this year.	1
4/9/08	Deutsche Bank	Liquidity Risk Seems Fine. As highlighted in our interday note on March 17, we feel that Lehman is not Bear Stearns when it comes to liquidity risk. In particular, Lehman has $31B in its holding company liquidity pool (up from $30B when it reported earnings) and has used its new avenue to the Fed's discount window somewhat. In addition, on April 1, Lehman raised $4B of additional capital (it has $23B of book value), showing that the doors are open for it to raise large amounts of capital quickly. In addition, Lehman has $60B of assets at the holding company that could be used for financing if needed (est. $30B of this seems quickly usable) and another $100B of assets in regulated subsidiaries. The unsecured financing does not seem much of an issue.	2
4/9/08	Deutsche Bank	Secured financing, such as with repo's, has become more of an issue, at least for the part related to non-treasury and non-agency, which totals $100B at Lehman. To protect itself, Lehman intends to continue to term-out this financing from 1 month to 3 months. In short, we do not view liquidity risk as a major short-term issue and access to the Fed's discount window gives some times to better protect itself. If nothing else, Lehman's positioning of its general risk level combined with extra actions to protect its liquidity should help put to rest concerns about its survivability.	3
4/9/08	Deutsche Bank	Revenue Risk:Near-term, the question is the degree that fear over Lehman's financial condition has caused clients to move business away. We estimate that Lehman has lost business related to prime brokerage. Nevertheless, this is where liquidity and equity risk help to determine revenue risk, especially to the degree that customers gain additional assurance that Lehman will stay around.	3
4/14/08	Bernstein	After the recent equity issuance moved LEH most of the way toward its deleveraging goal, the next step is to aggressively “de-risk” the balance sheet by cutting a targeted $55bn in riskier, less liquid assets (mortgages, leveraged and investment grade corporate loans, high yield inventory, and private equity) all by the end of 2Q08. While this may involve some further near-term “hits” (and why we are cutting our 2Q08 EPS estimate – see below), we believe it is bullish for the stock given that: 1) it gives us more confidence in our estimates for 2H08 and 2009 since it reduces writedown risk going forward; and 2) the sizable reduction in riskier less liquid assets should help allay balance sheet fears.	2

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4/14/08	Buckingham	Liquidity Position Remains Solid. More specifically, in terms of an update on liquidity, management noted that its liquidity position remains relatively unchanged compared to the end of the quarter. LEH's liquidity pool is currently $32 billion, up modestly from $30 billion in mid March (after the company bought back $4 billion of commercial paper), and the company's unencumbered asset pool remains unchanged, with $64 billion at the holding company and $97 billion within its regulated subsidiaries. Of course, the unencumbered asset pool is not necessarily a ready source of cash if lenders are not willing to lend against the assets. However, access to the Fed discount window as the lender of last resort has made this liquidity much more "realizable." In addition, management noted that the majority of the unencumbered assets are in security form – i.e. meeting the lending requirements of the Fed window (which will lend against any investment grade security – but not whole loans).	2
4/14/08	Buckingham	As important, we got more detail and comfort around LEH's repo financing. First of all, as of 1Q08, LEH was a "net lender" in the repo markets, with securities purchased under agreements to resell (repo loans) totaling $210 billion vs. securities sold under agreements to repurchase (repo borrowing) of $197 billion. With the tenor of these loans and financings relatively well matched, LEH is well positioned to pay off any repo borrowings by calling in their repo loans. As we mentioned in our industry note a few weeks ago ("Evaluating Liquidity at the Rest of the Brokers in a "Run on the Bank" Scenario"), this is in contrast to – and one of the weaknesses of – BSC, which was a relatively large net borrower in the repo markets.	2
4/14/08	Buckingham	Secondly, LEH accesses more than half of its repo financing through the Fixed Income Clearing Corporation (FICC), which is important as financing through FICC is anonymous, making it quite difficult for any counterparty to pull financing from any particular borrower (since counterparties are unknown). Third, LEH management stated that its policy is always to "over fund" its repo financing with Treasuries. So, if a lender was to get skittish about, say, GSEbacked AAA MBS as collateral, LEH has an abundance of US Treasuries to replace GSE MBS as collateral in its repo financing transactions.	2
4/14/08	Buckingham	As a result of all of these factors, management noted that the company has not lost a dollar of repo borrowing capacity since the run on Bear Stearns. Outside of repo financing, LEH does not have significant scale in prime brokerage or a meaningful amount of free credit balances from hedge fund clients (nor uses these balances as a source of funds), and thus we see limited liquidity risk from its prime brokerage business. So overall, taking into account its conservative repo positioning and sizable liquidity and unencumbered asset pools, we feel even more confident in LEH's liquidity position. Looking ahead, management expects to continue to be more conservative in its funding, looking to further "term out" harder to pledge assets and reduce any marginal "matched book" activities.	3

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4/22/08	Oppenheimer	The company has been cognizant of the market's concerns regarding Lehman's liquidity situation, balance sheet, and profitability and has managed its balance sheet accordingly. Callan highlighted the capital raise of $4 billion of 7.25% Non-Cumulative Perpetual Convertible Preferred Stock as a testament to investors' confidence in Lehman's franchise. Callan re-iterated that the company's target adjusted leverage ratio for delevering was 12x. Despite the fact that recent capital raises have brought the company closer to the target leverage ratio, it will continue to focus on de-risking by selling illiquid assets. In fact, management has set specific levels that exposures to illiquid assets should be at by the end of 2Q08. By the end of 2Q08, LEH plans to reduce exposures to commercial mortgages to $31 billion (down from $36.1 billion as of 1Q08) and residential mortgages to $26 billion (down from $31.8 billion as-of 1Q08). In addition, the company plans to reduce ABS exposures by a few billion dollars.	1
4/30/08	Citi	We recently met with Dick Fuld (CEO) and Erin Callan (CFO). Our views following the meeting includes: 1) The franchise has a healthy liquidity position that has only been enhanced by recent Fed actions, 2) most of the deleveraging will be complete over the next quarter or so ...	3
4/30/08	Citi	Company-specific risks include ... lack of financial liquidity in the event of shock type events.	12
5/5/08	Deutsche Bank	For the industry, the recovery might look more like a "U" than a "V"; the new environment with higher liquidity and lower leverage comes at a cost; and a turnaround is not likely in the next couple quarters … For Lehman, while on track with its deleveraging and derisking, the process is still expected to continue through year-end at a time when, in our view, hedging has been made tougher and past gains on its own debt can become losses given spread rallying.	2
5/5/08	Deutsche Bank	If nothing else, Lehman's positioning of its general risk level combined with extra actions to protect its liquidity should help put to rest concerns about its survivability. Nevertheless, this is where liquidity and equity risk help to determine revenue risk, especially to the degree that customers gain additional assurance that Lehman will stay around. Long-term, the lingering question is whether Lehman will get disadvantaged by a strategy that uses its balance sheet less, at least versus larger conglomerates.	4
6/3/08	Citi	Company-specific risks include ... lack of financial liquidity in the event of shock type events.	4

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6/4/08	Fox-Pitt, Kelton	- We continue to see no evidence that a push to "A" from "A+" is having any bearing on longer-dated business in the unregulated derivatives unit, and point out the option of the AAA-rated sub. Lehman merely needs to post $200 mil. of additional collateral this time around.- We also disagree with the concern that it must raise equity to avoid another notch downgrade in order to avoid the need to post $5+ bil. in additional collateral. We believe mgmt would rather tap into their liquidity pool—which by the way is now $5 bil. higher to $40 bil. per yesterday's disclosure—than massively dilute shareholders.	1
6/4/08	Merrill Lynch	LEH shares have meaningfully undershot Fair Value in the last few days on speculation and concerns that are not justified, in our opinion, given access to the FED primary dealer facility and ample liquidity. Also, we believe concerns of a "Bear-like" event at LEH are unfounded as LEH is not subject to the same funding risk at BSC (eg. low client balances, lower reliance on short-term repo).	1
6/5/08	Deutsche Bank	Liquidity is not a major issue, in our view, while equity risk remains but does not seem outsized.	1
6/5/08	Deutsche Bank	Liquidity is Okay: Lehman made a statement on Tuesday that Lehman had not accessed the Fed's discount window since they tested it back in April. Lehman also stated on Tuesday that its liquidity at the end of the second quarter was well above $40 billion (vs. $34B at the end of 1Q08). . At the end of the first quarter they also had unregulated unencumbered assets of $64B and an additional $96B of regulated unencumbered assets at the end of 1Q. Short-term borrowings and current portion of long-term borrowings was $34.5B at end of 1Q08. We feel that Lehman is not Bear. Liquidity is not a major issue, in our view.	3
6/9/08	Bank of America	While LEH reduced gross leverage from 32x to 25x, increased their liquidity pool from $34B to $45B, and drove reductions across most troubled asset classes (and reduced total assets by $130B or 17%), we await more details on total remaining troubled assets in aggregate as well as a L-III or illiquid asset update to help answer the question of whether $6B in incremental capital raise is sufficient.	1
6/9/08	Citi	Company-specific risks include ... lack of financial liquidity in the event of shock type events.	4
6/9/08	Deutsche Bank	Also, the liquidity pool increased from $34B to $45B linked quarter.	1
6/9/08	Deutsche Bank	Lehman raised $6B of capital consisting of $4B of common at $28/share and $2B of convertible preferred. This should increase total equity from $26B at quarter-end to $32B and shares outstanding from 640 million fully diluted to 840 million pro forma (60 mil. more from convertible and 140 mil. from common). LEH said that the new equity was to provide additional confidence so that it could put behind solvency/liquidity issues and get back to running its day to day business.	2
6/9/08	Deutsche Bank	The liquidity pool increased from $34B to $45B linked quarter.	2

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6/9/08	UBS	Stock is still trading below the new, lower book of $34, leverage is down a lot (and even more post capital raise), liquidity & capital ratios likely look OK, illiquid positions are down 15%-20% (more in June) & capital raise likely eases Bear-like liquidity/franchise concerns.	1
6/10/08	Credit Suisse	From a valuation standpoint, we believe investors should warm to the bondholder-friendly moves (albeit belated) the company has made, namely, beginning to dispose of out-of-favor assets, building liquidity, and reducing leverage.	4
6/10/08	Merrill Lynch	Also, LEH is smaller and more concentrated than other major firms, with less sticky funding sources and thus more prone to concerns over liquidity, though for the time being recent Fed actions appear to have eliminated the possibility of another Bear Stearns type run.	5
6/10/08	Oppenheimer	We note that from day one, CFO Erin Callan had been explicit and deliberate on Lehman’s intention to delever the balance sheet. Back in the 1Q08 earnings conference call (3/18/2008), CFO Callan stated that the company did “very deliberately, take leverage down for the quarter. We ended with a net leverage ratio of 15.4 times, down from 16.1 at year end. And we will continue to allocate capital on the balance sheet in the market in a way that we consider prudent, and that reflects the liquidity profile of the balance sheet.” Callan reiterated this point to us during our meeting with her (on April 21, 2008), saying that the company's target adjusted leverage ratio for delevering was 12x.	2
6/10/08	Oppenheimer	Despite the fact that recent capital raises at the time had brought the company closer to the target leverage ratio, Callan said the company would continue to focus on de-risking by selling illiquid assets. In fact, management has set specific levels that exposures to illiquid assets should be at by the end of 2Q08. On Monday’s pre-announced earnings conference call, CFO Callan made a clear point that the company “does not intend to lower [its] leverage ratios from these levels” given an estimated reduced net leverage to under 12.5x at the end of 2Q08. That is, Lehman’s “deleveraging is complete.”	2
6/10/08	Oppenheimer	Lehman’s liquidity pool (at the holding level) grew to an estimated $45 billion at the end of 2Q08 from $34 billion at the end of the prior quarter. Cash surplus grew to approximately $15 billion at the end of 2Q08 from $7 billion at the end of the prior quarter. Lehman has fully completed its budgeted funding plan for the full year 2008 (~$33 billion which includes $5.5 billion of public benchmarked long-term debt).	4
6/10/08	UBS	Both the loss & capital raise were larger than expected, and while the capital raise helped alleviate some liquidity concerns and brought LEH’s net leverage ratio below 10x & gross leverage below 22x, continuing questions around the adequacy of marks on the remaining $65B of risk exposures and the resulting 25+% dilution to EPS from the capital raise could keep the shares range bound.	1

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6/10/08	UBS	Liquidity Concerns Should (Again) be Off the Table. We think any lingering liquidity fears should have been put to rest by Lehman's disclosures and commentary on the conference call yesterday, as the firm upped its parent liquidity pool (now at $45 billion), raised an additional $6 billion in capital, de-leveraged its balance sheet to bank-like levels (pro forma net leverage is less than 10x), generated reasonably healthy core revenues (customers don't seem to be running away), did not have repo lines pulled by counterparties, completed its debt funding needs for the rest of 2008, and have not tapped the Fed window since April 16th.	2
6/10/08	UBS	In our view, this should at least close the book on part of the short story and put to bed any concerns of a possible re-enactment of the Bear Stearns saga. Given that perception matters almost as much as reality, we think management did the right thing by reducing leverage as much as they did and also raising the $6 billion in equity despite a loss of just $2.8 billion (a cushion may prove to be useful if the economy continues to sputter and assets need to be marked further), though we think the possibility of a liquidity storm was not the main reason the stock has been under pressure.	2
6/10/08	UniCredit[2]	Despite its disappointing P&L figures, management put in place a number of actions: (a) the liquidity pool rose to USD 45 bn (vs. USD 34 bn at the end of Q1); (b) assets decreased by USD 130 bn on a gross basis (by USD 60 bn on a net basis); (c) leverage was brought to 25x vs. 32x on a gross basis (13x vs. 15x on a net basis); (d) most (if not all) risky exposure was reduced: (i) residential mortgages, commercial mortgages and real estate investments by 15% to 20% in each asset class; (ii) acquisition finance by roughly 35%; (iii) non-investment grade inventory by 20% (including funded acquisition finance assets). Level 3 assets, which went through some reshuffling, are expected to remain at the same level as at the end of February: USD 43 bn.	1
6/11/08	HSBC[2]	We would agree with management that the Fed backstop (the Primary Dealer Credit Facility and Term Securities Lending Facility) significantly reduces run-on-the-bank risk. But an interesting twist developed over the course of the quarter. In clarifying its liquidity position last week, management was pressed on whether or not it had borrowed from the Fed's facility, as if doing so was a real sign of weakness. It said it was not into the Fed at the time, something that was reiterated on yesterday's conference call. Management acknowledged that it has "tested" the facility on occasion, most recently April 16. But it now seems to us that unless the industry's top tier names access the facility on a regular basis, there will be a stigma attached to those that do. That does not diminish the safety net aspect of the facility, but, assuming the industry's top tier names do not access it on a regular basis, it will quite possibly come at a spread-widening cost to those that do.	3
6/11/08	Merrill Lynch	We expect LEH to survive because its liquidity profile is strong and the Fed discount window is open; and its franchise businesses seem very strong. But current business and asset mix are just not well positioned for the current environment.	1
6/11/08	Merrill Lynch	We do believe that LEH will be a survivor, because its liquidity and capital/ leverage positions are relatively solid and because, as a bulwark against moments of extreme funding stress, the Fed's window is currently open in a way that it was not at the time of the Bear Steams debacle.	3

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6/11/08	Merrill Lynch	As with most brokers, LEH's business is very balancesheet intensive and employs high levg, and revenues can be "lumpy" and subject to global mkt disruptions. LEH holds substantial balances of illiquid secs subject to more negative marks. Going forward, IBs will likely face greater gov't scrutiny of leverage that could hinder peak returns. Also, LEH is smaller and more concentrated than other major firms, with less sticky funding sources and thus more prone to concerns over liquidity, though for the time being recent Fed actions appear to have eliminated the possibility of another Bear Stearns type run.	5
6/11/08	Morningstar	The failure of competitor Bear Stearns raises the question of whether another investment bank could unravel. Speculation about another bank failure increased recently as Lehman came under pressure. The investment banks can now directly access the newly created primary dealer credit facility, which greatly reduces the risk of another bank collapsing, in our opinion. However, it is not a guarantee that another could not fail.	2
6/16/08	Wachovia	LEH provided extensive disclosure around its positions in residential, commercial, and leverage loan exposures. We believe the stepped up effort is a positive first step in what will likely be a long road to restoring market credibility. Although more asset sales are likely, we believe LEH is in a better position to sell at its own pace compared to the accelerated selling effort in Q2. The improved capital and liquidity position should go a long way to calming market fears, particularly on the fixed income side. It does sound like some marks are still possible in commercials, Alt-A, and in Europe. ... LEH should recover from recent turmoil, management changes, and challenging markets. An improved liquidity and capital profile will likely be felt throughout the firm.	1
6/17/08	Buckingham	Lastly, LEH’s liquidity position remains strong.	2
6/17/08	Buckingham	Liquidity remains strong, with cash increasing to $45bn from $34bn in the prior quarter at the holding company level. LEH also has $59bn in unencumbered collateral at the holding company level which it can borrow against. Within its regulated subsidiaries, LEH also noted that it has $17bn of liquidity and $87bn of additional unencumbered assets. On the repo side, it remains conservatively positioned by terming out its borrowings (average 40 day term) and overcollateralizing its tri-party repo book. In addition, we believe LEH remains a net lender with respect to its repo book. All in, LEH’s liquidity position continues to improve.	3
6/17/08	Fox-Pitt, Kelton	The only thing that we DO see is a company that has meaningfully reduced problem assets, de-levered, grown its liquidity pool, and still maintained a strong, diversified client franchise.	1
6/17/08	Ladenburg	The primary reason for the rating adjustment is a belief that the company has settled the uncertainties related to its balance sheet. It has: a) raised $4.0 billion in a common stock offering; b) an additional $7.9 billion in three preferred stock offerings; and c) $3.5 billion in two debt offerings. In addition, it has reduced the size of its balance sheet by $147 billion and it claims to have raised its liquid assets to $46 billion or well above its short-term financing needs.	1

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6/17/08	Merrill Lynch	Assets declined by $147bn in the quarter, about $17bn more than was indicated in the preliminary release last week, and amounting to nearly 19% of the Q1-end asset base. Only around $25-30bn of the reductions were in the more-difficult, less-liquid asset classes, we believe, but the reduction reflected both a desire to reduce less-liquid exposures and to de-leverage broadly.	3
6/17/08	Merrill Lynch	As with most brokers, LEH's business is very balance-sheet intensive and employs high levg, and revenues can be "lumpy" and subject to global mkt disruptions. LEH holds substantial balances of illiquid secs subject to more negative marks. Going forward, IBs will likely face greater gov't scrutiny of leverage that could hinder peak returns. Also, LEH is smaller and more concentrated than other major firms, with less sticky funding sources and thus more prone to concerns over liquidity, though for the time being recent Fed actions appear to have eliminated the possibility of another Bear Stearns type run.	7
6/17/08	Oppenheimer	Lehman's liquidity pool (at the holding level) grew to $45 billion at the end of 2Q08 from $34 billion at the end of the prior quarter. Cash surplus grew to approximately $15 billion at the end of 2Q08 from $7 billion at the end of the prior quarter. Lehman had tested the Fed's new Primary Dealer Credit Facility on occasion but did not have an outstanding balance as-of the end 2Q08. April 16 was the last time the company accessed this facility on an overnight basis.	4
6/17/08	UBS	In our view, with questions related to Lehman as a going concern mostly off the table (Fed facility doing its job, capital & liquidity are fine, leverage down a ton, illiquid exposures~20% lower), the adequacy of asset marks and earnings power of the franchise are the key issues.	1
6/17/08	UBS	For now, given the high enough capital ratios (12.5% pro forma Tier 1), better (but not perfect) granularity around pricing and lack of new news (Lehman specific that is – the environment still isn't great), we think Lehman's stock can settle in here and even rise closer to stated book (not tangible, Neuberger is worth more) as the shorts get a little impatient. Longer term, we think the jury is still out related to Lehman's marks, business mix, and earnings power, and even the business model in general, as the industry tries to digest what just happened and sorts out the future structure of regulation, disclosure, and what kind of leverage, capital, and liquidity metrics these companies should operate under.	2
6/17/08	UBS	Going Concern Issues Should Die Down. Specifically we think management once again did a good job allaying any lingering liquidity fears as the firm's parent liquidity pool closed the quarter at a robust $45 billion, up from $34 billion at the end of 1Q, Lehman's Tier 1 capital ratio (under the Basel II standards) was north of 10% at the end of 2Q and is above 12.5% after the recent capital raise, leverage ratios are the lowest in the peer group, and Lehman has seen no repo lines pulled by counterparties (LEH has also been over-funding and terming out repo as a precautionary measure) and has completed its debt funding needs for the rest of 2008.	3

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6/17/08	UBS	In addition, given the existence of the Fed's Primary Dealer Credit Facility as a backup plan, we do not expect Lehman to experience a run-on-the bank scenario which caused Bear to become part of a larger entity. Finally, given Lehman's healthy liquidity and capital ratios, we think calls for a capital infusion from a strategic partner should die down, and we get the sense that if another firm was interested in taking a meaningful stake in Lehman this would be accomplished in the open market as opposed to through another dilutive share issuance (stock's been trading 50-100 million shares lately).	3
6/30/08	Morgan Stanley	PDCF serves as a 'backstop' for the group against another 'run-on-the-broker' scenario from playing out.	
6/30/08	Morgan Stanley	We think near-term risk of incremental write-downs is balanced by solid liquidity and capital footing.	1
6/30/08	Morgan Stanley	Key Value Drivers: Timing and magnitude of asset sales (and potential valuation hits) stemming from illiquid asset overhang.	2
6/30/08	Morgan Stanley	In any case, in consultation with the Fed, LEH and its peers have been aggressively stockpiling liquidity in the wake of the collapse of Bear Stearns.	3
6/30/08	Morgan Stanley	Comparisons to Bear Stearns do not hold up. Given LEH's relative size, less diverse revenue composition vs. larger peers, and short-term funding profile, the firm had to contend with heightened scrutiny leading up to and following the liquidity run on Bear Stearns. However, we believe that comparisons to Bear do not hold up, particularly in the wake of the Fed's aggressive action in the wake of Bear's collapse.	8
6/30/08	Morgan Stanley	Beyond Lehman's comparatively solid liquidity position on a standalone basis, we see the creation of various Fed liquidity facilities, in particular the PDCF, as alleviating liquidity-related issues surrounding the brokers. ... Lehman has made progress on the key measures of liquidity — parent company liquidity and short-term funding. Despite market upheaval, LEH has been able to shore up its liquidity position, increasing parent company liquidity pool to $45 billion in 2Q08 from $34 billion in prior quarter, and up from $29.8 billion in 2Q07.	8
6/30/08	Morgan Stanley	In terms of unsecured short-term debt (including the current portion of long-term debt) vs. parent liquidity, Lehman's ratio of 1.0x is in line with peer average (lower is better here). Also, its short-term debt as a percentage of unsecured borrowings is at the low end of the peer group (21% vs. 29% for peers). However, this in part owes to the firm's greater reliance on secured borrowings relative to its peer group (evidenced by firm's disproportionate reliance on "repo" funding).	8
6/30/08	Morgan Stanley	As of 1Q08, repo funding accounted for 5.7x of LEH's liquidity reserve compared to 2.6x for peers (although post 2Q08, we estimate this ratio to be closer to 4.1x). However, as Lehman continues to delever its balance sheet, we would expect this ratio to fall and see a gradual "terming-out" of repo liabilities (and other short-term liabilities).	8
7/14/08	Citigroup	LEH ratio of Level 3 to equity shown proforma for $6b capital raise in 3Q08.	3

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7/14/08	Citigroup	In our view, capital ratios and risk-weighted assets are a more effective way of evaluating firm risk and capital adequacy (vs. leverage ratios), but they still lack a focus on liquidity.	
7/14/08	Citigroup	Lehman's repo book is comprised of nearly 50% government and agency securities, for which there is a very liquid market.	11
7/14/08	Fox-Pitt, Kelton	We continue to believe that the decline in Lehman’s stock has little to do with the company’s liquidity and balance sheet, but is more based on investors’ pricing in the probability of a Bear Stearns-like run-on-the-bank. Meanwhile, we believe there is increasing danger that counterparties, creditors, and customers will be spooked by the stock’s action, thus completing the vicious cycle of a self-fulfilling prophecy.	1
7/14/08	Fox-Pitt, Kelton	Liquidity Ratios Normal. Next, we examined overall liquidity ratios of Lehman and its peers. Lehman’s 2Q08 ratio of (Liquidity Assets – Float Funding)/ (Float Funding), which indicates the amount of liquid assets vs. current liabilities, was 49%. The ratio was higher than those of Goldman and Morgan Stanley. Lehman’s ratio of (Float Funding/Other Funding) was 1.9x, lower than those of Goldman and Morgan Stanley, which we view as positive. Lehman ended 2Q08 with a liquidity pool of $45 billion.	4
7/14/08	Morgan Stanley	While we recognize it is difficult to focus on fundamentals in the current market backdrop, we believe LEH has both the capital and liquidity to weather near-term headwinds.	1
7/23/08	UBS	While clients & employees are nervous, from what we can tell, there’s only been modest erosion at this point. Importantly, we think Lehman has more staying power given the existence of the Fed facility, its healthy liquidity profile, strong capital ratios, and the fact that repo counterparties have held firm.	1
7/23/08	UBS	Given that we don’t see Lehman facing a massive liquidity crisis, we have a hard time coming up with a catalyst which would force liquidation of assets at fire sale prices. Still, given the real issues facing Lehman on the exposure side we think the firm could have some tough sledding ahead and it is tough to think that there is much new business coming in the door given the distractions around the stock price and senior management’s attention being drawn away from business as usual (combined with seasonality and still tough credit markets, don’t expect a great 3Q).	2
7/23/08	UBS	Lehman has been over funding its repo agreements and termed out its non-government/agency repo agreements to 35 days and completed its long-term debt financing needs for the rest of 2008, which should take additional pressure off of near-term liquidity concerns.	3
7/24/08	Morgan Stanley	Balance sheet de-risking is the primary near-term catalyst. We do not believe a management-led buyout or sale of Neuberger Berman, as hypothesized in media reports, are either likely or practical. Rather, as we have noted previously, we see near-term catalysts from a meaningful asset disposition with a strategic partner or continued asset sales. In either case, mortgage asset “liquidity” would lend greater weight to valuation marks.	1

Exhibit 28
Analyst Quotes Relating to Liquidity [1]
Aug 2006 – Sep 2008

Date	Report Issuer	Quote	Page
7/24/08	Morgan Stanley	We see fundamental-driven downside risk under what we consider a worst case scenario where the firm reports in excess of $12bn in write-downs, a threshold that we believe would drive the need for incremental capital (or alternatively, a merger partner). ... We continue to believe that LEH has both the liquidity (backstopped by the Federal Reserve's PDCF) and the capital to manage its illiquid asset overhang.	3
7/25/08	Fox-Pitt, Kelton	The risk to LEH shares: (a) fear-mongering somehow returns and a panic ensues before Lehman gets to announce its 3Q08 result in mid-Sept (ala Bear); or (b) the company's 3Q08 fortunes change and it produces another relatively large loss for the quarter.	5
8/14/08	Bank of America	Of LEH's $64B (see below) in risk exposures remaining across resi-mortgage, CRE & LBOs, mgmt expects to take a linear path to reducing exposures vs. one-time bulk sales to minimize price impact. For q3, mgmt targets a 20%+ reduction w/a focus on reducing investor & client 'crisis of confidence' issues impacting LEH's client-facing franchise.	3
7/28/08	Merrill Lynch	Liquidity and capital at comfortable level Management remains comfortable with the firm's liquidity and capital adequacy, despite the likely continuance of negative marks.	3
8/27/08	Morgan Stanley	We believe a key question for investors is not the size of the write-down, but how remaining illiquid asset exposure squares with capital cushion. This will reflect action by LEH to restore confidence in balance sheet marks and its capital position (e.g., potential stake sale, 3rd party venture to manage portfolio). Otherwise, franchise erosion is a real risk.	1
9/8/08	Bernstein	The equity market remains concerned that Lehman's earnings power has been eroded by the decline in its industry-leading residential and commercial mortgage origination business. And credit default swap spreads on Lehman Brothers suggest continuing concern in the credit markets about the firm's large exposure to RMBS and CMBS inventory positions and to Commercial Real Estate investments. The Federal Reserve is buying time for Lehman and the rest of the securities industry by providing access to the funding window through year end 2008. And Lehman's management has shown that (at least for now) that it is committed to deleveraging and de-risking the firm's balance sheet and strengthening its funding base.	2
9/8/08	Bernstein	Whether Lehman management will maintain its new-found risk management and liquidity discipline and improved disclosure policies when fixed income markets improve is not certain.	2
9/8/08	Merrill Lynch	While the GSE takeover does nothing directly for non-Agency or Commercial mortgage markets, we do believe the environment has improved for LEH to be able to attract the equity capital it needs at a price around the current market, despite the likelihood of another big loss as the company seeks to sell illiquid Real-Estate-related assets.	1

Exhibit 28
Analyst Quotes Relating to Liquidity [1]
Aug 2006 – Sep 2008

Date	Report Issuer	Quote	Page
9/8/08	Merrill Lynch	As with most brokers, LEH's business is very balance-sheet intensive and employs high leverage, and revenues can be "lumpy" and subject to global market disruptions. LEH holds substantial balances of illiquid securities subject to more negative marks.	11
9/9/08	Fox-Pitt, Kelton	LEH has fallen precipitously over the past two trading days to sub-$8/shr. This increases the counterparty-panic risk meaningfully, and at least one credit ratings agency put Lehman's counterparty ratings on neg. watch. As a result, mgmt now may have to act quickly to avoid a panic, and a subsequent Bear Stearns-like fate.	1
9/10/08	Citigroup	Company-specific risks include…lack of financial liquidity in the event of shock type events.	3
9/10/08	Deutsche Bank	Risks are significantRisks include lack of swift execution of its plan, rating downgrades below A (S&P placed LEH on negative watch yesterday), changes to write-down assumptions, and disruptions to its liquidity and customer profile. Also, much of the current management team is unproven in their roles and may struggle to remain focused on customers while pursuing the restructuring. Moreover, if perceptions of weakness persist, LEH could have incremental funding issues and, therefore, may need to act more quickly than indicated on today's call. Investors should, of course, also be aware of heightened risk given current market uncertainties and volatility around this stock.given a lower 2009E book The key risk is LEH's ability to reduce balance sheet exposure and still manage for future growth.	1
9/10/08	Morningstar	In order to raise capital, Lehman is selling 55% of a subset of its investment management division. … The company has also cut its annual dividend from $0.68 per share to $0.05 per share. This will allow the company to keep approximately $450 million more annually. This is a sound strategic move. Raising capital is becoming more difficult, so earnings should be retained as much as possible to provide for balance sheet liquidity.	1
9/11/08	HSBC[2]	Through it all, there were positives in yesterday's announcement, including (1) feasible plans to reduce commercial and residential real estate exposure; (2) marks against the problem assets seem to be conservative; (3) evidence that the firm can still make money, ex-writedowns; (4) devising a creative way to raise capital off of its investment in asset management, while retaining a significant amount of its earnings; (5) no diminution of the firm's liquidity pool; (6) reduced financial leverage; and (7) a commitment to continue to explore strategic alternatives.	1
9/11/08	HSBC[2]	From a valuation standpoint, there are important distinctions that need to be made from our starting point, Bear Stearns. Lehman is a better, more diversified franchise. It is much more conservatively funded, and carries a huge liquidity pool of some $42 billion. It has access to the Federal Reserve for emergency funding. It also has one thing that it shares with Bear Stearns—it is too big to fail in our opinion. The interconnectedness of the firm within the global financial system is firmly bound. We have to believe that no regulator or central banker really wants to find out what a massive counterparty risk failure would look like.	5

Exhibit 28
Analyst Quotes Relating to Liquidity [1]
Aug 2006 – Sep 2008

Date	Report Issuer	Quote	Page
9/11/08	Goldman Sachs	[L]iquidity issues are unlikely to impact Lehman Brothers as they did Bear Stearns given the implementation of the Fed liquidity facilities (specifically the PDCF)…	
9/11/08	Buckingham	While we believe LEH's capital and liquidity remains solid, even after the spin out of its commercial real estate entity, it does not appear that the rating agencies are willing to give LEH the time it needs to execute its strategic initiatives. And while we strongly disagree with the rating agencies' stance, perception is reality in this business and a significant downgrade would be very onerous on LEH's trading business.	1
9/11/08	Buckingham	Liquidity risk appears low. LEH's liquidity pool was $42bn, down from $45bn at then end of 2Q08 but includes the paydown of $4bn of CP during the quarter. LEH also had $148bn of unencumbered assets at the end of 2Q08 it could potentially use as collateral for additional liquidity. In addition, LEH remains well positioned in a "run on the bank" scenario. For one, LEH was a "net lender" in the repo markets as of 2Q, limiting the risk of not being able to fulfill obligations should lines be pulled. Moreover, greater than 50% of its repo lines are collateralized by highly liquid US Treasury and Agency securities. In addition, LEH does not rely on prime brokerage free credit balances for funding, but simply acts as a pass through for hedge fund clients by placing client cash in money markets. Lastly, LEH has the Fed window as the lender of last resort. So bottom line, run on the bank scenario risk seems very low with respect to LEH.	3
9/11/08	Citigroup	We don't see any potential liquidity issues with the Fed backstop in place and we view Lehman's strategic initiatives as an incremental positive, however confidence and perception issues are overwhelming Lehman's franchise value. … Raising capital is the best option in our view. Lehman is in an extremely tough negotiating position, however we view raising capital in the very near-term as one of the most effective options to address the perception and confidence issues surrounding LEH shares.	1
9/11/08	Citigroup	Company-specific risks include ... lack of financial liquidity in the event of shock type events (i.e. government intervention).	6
9/11/08	Deutsche Bank	Rating agency moves may create distressed sale position: Moody's said Lehman needs more strategic action, sales of all or part of the firm, and 'to turn around market sentiment' to avoid a downgrade to below A, a level that seems unacceptable. Liquidity and charges had seemed manageable, in our view, but the change in rating agency posture is an unexpected negative that may create a distressed sale situation. ... Rapidly changing environment: We believed that Lehman was on its way to accomplishing (1) an orderly asset liquidation (given the environment) that would allow it to manage its marks; and (2) resolution of uncertainty about the future. Yet, to avoid a downgrade, point one is diminished, but the very real possibility of a downgrade diminishes point two. Thus, we need to balance our estimate of LEH's adjusted book value vs. a potential fire sale of the whole firm.	1

Exhibit 28
Analyst Quotes Relating to Liquidity [1]
Aug 2006 – Sep 2008

Date	Report Issuer	Quote	Page
9/11/08	Deutsche Bank	We reiterate the following key company-specific factors: lack of swift execution of its plan, rating downgrades below A (S&P and Moody's placed LEH on negative watch), changes to write-down assumptions, and disruptions to its liquidity and customer profile. Also, much of the current management team is unproven in their roles and may struggle to remain focused on customers while pursuing the restructuring. Moreover, if perceptions of weakness persist, LEH could have incremental funding issues and, therefore, may need to act more quickly than indicated on today's call. Investors should, of course, also be aware of heightened risk given current market uncertainties and volatility around this stock.	2
9/11/08	UBS	LEH Reported a Larger Than Expected Loss of $5.92 Per Share: The loss (driven by $7.8 bn of gross write-downs) was bigger than expected and there are still plenty of unanswered questions, but Lehman definitely reduced risk in 3Q (total mortgage assets declined 23% q/q) and its capital ratios (11.0% Tier 1), liquidity profile ($42 bn at the parent) and core revenues of $3.5 bn were all some version of pretty good considering the backdrop.	1
9/11/08	UBS	In our view, while there's likely been some client flight recently, we think the flood gates aren't open (LEH's $3.5 billion of "core" revenues was only down 17% sequentially) and believe that Lehman's counterparties (especially the US ones) aren't going anywhere thanks to the Fed facility, Lehman's stable liquidity and their own vested interest (fear they might be next).	2

Source: Analyst Reports

Note:

[1] Analyst reports reviewed include fundamental equity and fixed income analyst reports on Lehman Brothers available from Thomson Research (formerly Investext) and Capital IQ. Included in the review are a few additional reports published between July 1, 2008 and September 15, 2008 and produced in support of the Expert Report of Gregg A. Jarrell filed February 3, 2012. Quotes are formatted as they appear in original reports.

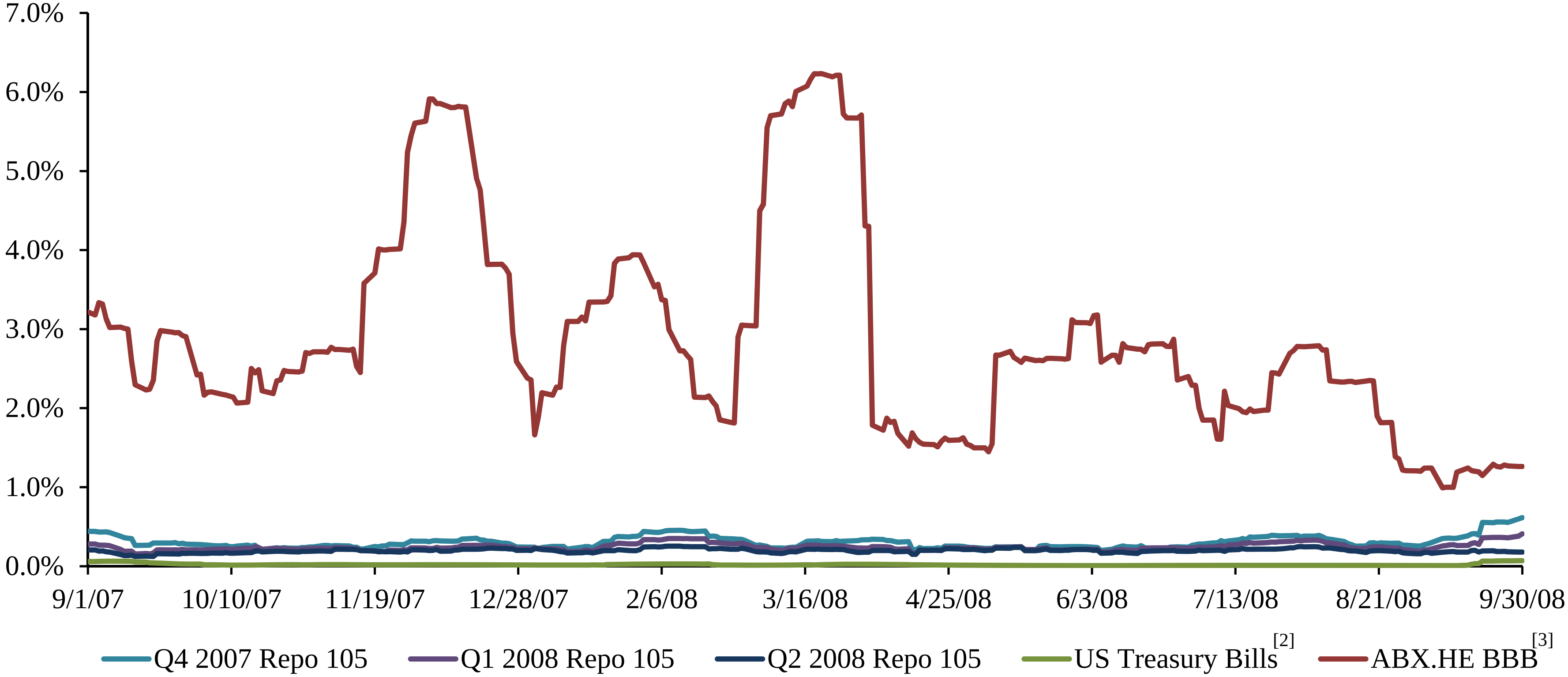
[2] Fixed income analyst report.

Exhibit 29

Rolling One-Month Volatility of Repo 105 Portfolio vs. U.S. Treasury and ABX Indices[1]

9/1/07 – 9/30/08

Source: *Bloomberg*; LBEX-DOCID 2078195



Note:

[1] Repo 105 portfolio includes both Repo 105 and Repo 108 assets. Rolling one-month volatilities are calculated as the standard deviation of returns on the portfolio of Repo 105 assets in the prior 21 trading days (inclusive). Repo 105 portfolio returns are calculated as a weighted-average of available returns on the assets used in Repo 105s for that quarter, weighted using quarter end Repo 105 and Repo 108 balances. Returns data were available for approximately 80%, 79%, and 88% of assets used in Repo 105s at the end of fiscal Q4 2007, Q1 2008, and Q2 2008, respectively. Fiscal Q2 2008 Repo 105 assets for which no price data were available comprised 4.9% Treasuries, 62.6% Agencies, 10.8% Corporates, 14.9% Sovereigns, and 6.8% other. Fiscal Q1 2008 Repo 105 assets for which no price data were available comprised 2.9% Treasuries, 52.2% Agencies, 9.7% Corporates, 25.6% Sovereigns, and 9.5% other. Fiscal Q4 2007 Repo 105 assets for which no price data were available comprised 1.3% Treasuries, 45.8% Agencies, 9.1% Corporates, 27.0% Sovereigns, and 16.8% other.

[2] US Treasury Bills is the Bank of America Merill Lynch US Treasury Bill Index.

[3] The Markit ABX.HE index is a synthetic tradeable index referencing a basket of 20 subprime mortgage-backed securities. For the Markit ABX.HE.BBB Index, series 06-1 is used. This series launched on 01/19/2006 and is composed of selected securities issued prior to that day.

Exhibit 30.1
Lehman Brothers
Expected Liquidity Reserve for Repo 105s to Ensure No Loss of Repo Financing
Fiscal Q4 2007 – Q2 2008

($ in millions)

Source: LBEX-DOCID 2078195; LBEX-DOCID 3219746; LBEX-DOCID 3219760; *Bloomberg*

	Q4 2007		Q1 2008		Q2 2008	
3 Months Volatility	0.19%		0.27%		0.23%	
Required Margin	Amount	% of Liquidity Pool	Amount	% of Liquidity Pool	Amount	% of Liquidity Pool
105%	$317.8	0.9%	$666.3	1.9%	$574.5	1.3%
104%	$125.0	0.4%	$363.4	1.1%	$272.2	0.6%
103%	$34.0	0.1%	$165.0	0.5%	$99.7	0.2%
102%	$7.7	0.0%	$70.6	0.2%	$32.1	0.1%

Note:

[1] Expected liquidity reserve needed to ensure no loss of repo financing over the next fiscal quarter is computed using Monte Carlo simulation of Repo 105 returns with 5,000 trials for each scenario. It is assumed that returns on the Repo 105 portfolio of assets are independent and identically normally distributed with mean zero and standard devation equal to the sample standard deviation of the returns over the 62 trading days prior to the end of each fiscal quarter. Daily returns on the Repo 105 portfolio of assets are calculated by weighting the returns of the individual assets by their share in the overall Repo 105 portfolio. The total size of the Repo 105 portfolio on a given day is assumed to be equal to the aggregate volume of individual assets in that fiscal quarter for which data on returns are available on that day. If an asset has data on a given day, its share of the Repo 105 portfolio on that day is equal to its volume at the end of the specified quarter, divided by the total size of the Repo 105 portfolio on that day. Assets for which returns data on returns are not available are assumed to have 0% share in the overall Repo 105 portfolio.

[2] It is assumed that margin calls begin to be issued to Lehman when the market value of Repo 105 assets falls below the specified required margin. It is assumed that Lehman posts general collateral in the same composition as the original Repo 105 assets so that the returns on these assets are the same as the original assets underlying Repo 105. It is assumed that the market value of collateral is reevaluated every trading day.

Exhibit 30.2
Lehman Brothers
Expected Liquidity Reserve for Repo 108s to Ensure No Loss of Repo Financing
Fiscal Q4 2007 – Q2 2008

($ in millions)

Source: LBEX-DOCID 2078195; LBEX-DOCID 3219746; LBEX-DOCID 3219760; *Bloomberg*

	Q4 2007		Q1 2008		Q2 2008	
3 Months Volatility	1.26%		1.69%		1.24%	
Required Margin	Amount	% of Liquidity Pool	Amount	% of Liquidity Pool	Amount	% of Liquidity Pool
108%	$632.8	1.8%	$686.5	2.0%	$417.9	0.9%
107%	$566.7	1.6%	$638.1	1.9%	$373.5	0.8%
106%	$497.0	1.4%	$581.1	1.7%	$326.9	0.7%
105%	$437.0	1.3%	$543.9	1.6%	$286.8	0.6%
104%	$367.1	1.1%	$463.7	1.4%	$240.3	0.5%
103%	$314.5	0.9%	$420.7	1.2%	$205.3	0.5%
102%	$263.3	0.8%	$371.3	1.1%	$171.3	0.4%

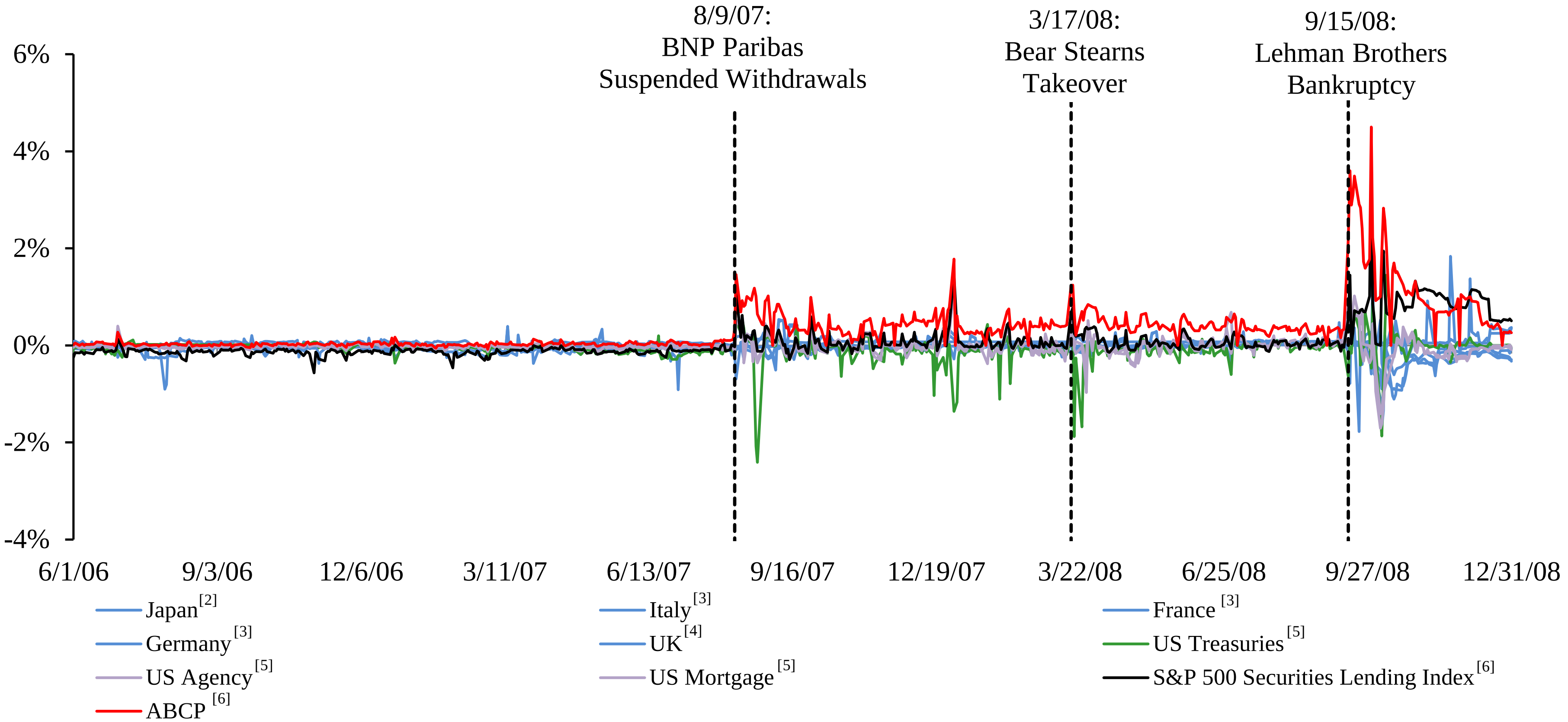
Note:

[1] Expected liquidity reserve needed to ensure no loss of repo financing over the next fiscal quarter is computed using Monte Carlo simulation of Repo 108 returns with 5,000 trials for each scenario. It is assumed that returns on the Repo 108 portfolio of assets are independent and identically normally distributed with mean zero and standard devation equal to the sample standard deviation of the returns over the 62 trading days prior to the end of each fiscal quarter. Daily returns on the Repo 108 portfolio of assets are calculated by weighting the returns of the individual assets by their share in the overall Repo 108 portfolio. The total size of the Repo 105 portfolio on a given day is assumed to be equal to the aggregate volume of individual assets in that fiscal quarter for which data on returns are available on that day. If an asset has data on a given day, its share of the Repo 108 portfolio on that day is equal to its volume at the end of the specified quarter, divided by the total size of the Repo 108 portfolio on that day. Assets for which returns data on returns are not available are assumed to have 0% share in the overall Repo 108 portfolio.

[2] It is assumed that margin calls begin to be issued to Lehman when the market value of Repo 108 assets falls below the specified required margin. It is assumed that Lehman posts general collateral in the same composition as the original Repo 108 assets so that the returns on these assets are the same as the original assets underlying Repo 108. It is assumed that the market value of collateral is reevaluated every trading day.

Exhibit 31
Overnight Repo and Secured Financing Rate Spreads[1]
6/1/06 – 12/31/08

Source: *Bloomberg*; Public Press; Federal Reserve Board



Note:

[1] Assets for which repo and secured financing rate spreads are available represent 78.9%, 84.9%, and 87.4% of Repo 105 assets as of fiscal Q4 2007, Q1 2008, and Q2 2008, respectively.

[2] The repo rate spread for Japan government bonds is calculated by subtracting the Bank of Japan unsecured overnight call rate from the Japan overnight repo rate.

[3] The repo rate spread for Italy, France, and Germany government bonds is calculated by subtracting the Euro Overnight Index Average interbank rate from the overnight repo rate of each country.

[4] The repo rate spread for UK government bonds is calculated by subtracting the Sterling Overnight Index Average interbank rate from the UK overnight repo rate.

[5] The repo rate spread for US Treasuries, US Agency, and US Mortgage is calculated by subtracting the Federal Funds rate from the overnight repo rates.

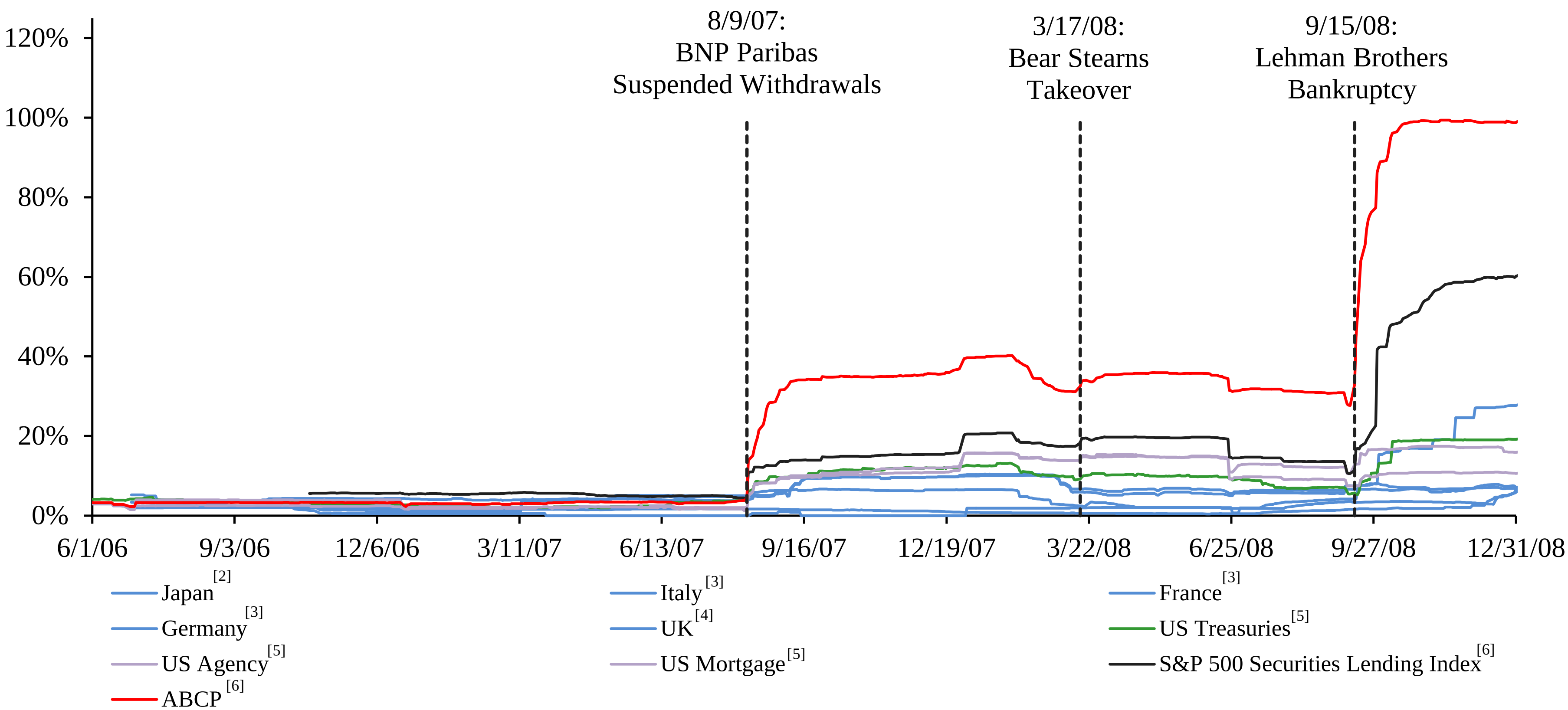
[6] The secured financing rate spread for the S&P 500 Securities Lending Index and ABCP is calculated by subtracting the Federal Funds rate from the secured financing rates.

Exhibit 32

Semideviation of Overnight Secured Financing Spreads[1]

6/1/06 – 12/31/08

Source: *Bloomberg*; RepoFunds Rate; Public Press; *Federal Reserve Board*



Note:

[1] The semideviation of a secured financing rate spread is calculated using the deviations of that spread above its average spread over a 126-day rolling period. Assets for which semideviations can be calculated represent 78.9%, 84.9%, and 87.4% of Repo 105 assets as of fiscal Q4 2007, Q1 2008, and Q2 2008, respectively.

[2] The repo rate spread for Japan government bonds is calculated by subtracting the Bank of Japan unsecured overnight call rate from the Japan overnight repo rate.

[3] The repo rate spread for Italy, France, and Germany government bonds is calculated by subtracting the Euro Overnight Index Average interbank rate from the overnight repo rate of each country.

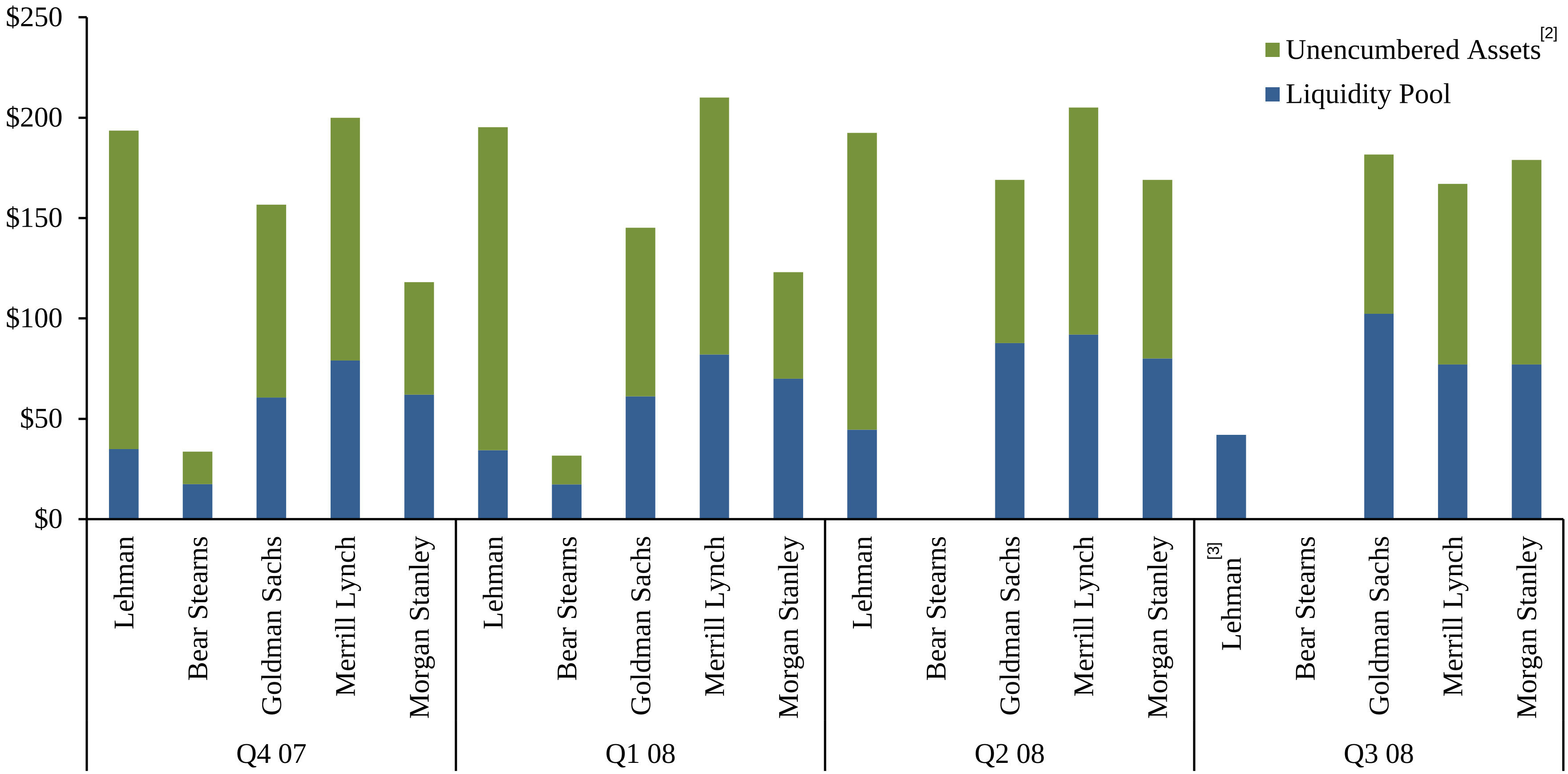
[4] The repo rate spread for UK government bonds is calculated by subtracting the Sterling Overnight Index Average interbank rate from the UK overnight repo rate.

[5] The repo rate spread for US Treasuries, US Agency, and US Mortgage is calculated by subtracting the Federal Funds rate from the overnight repo rates.

[6] The secured financing rate spread for the S&P 500 Securities Lending Index and ABCP is calculated by subtracting the Federal Funds rate from the secured financing rates.

Exhibit 33
Lehman Brothers and Peers
Liquidity Pool and Unencumbered Assets (Liquidity Reserve)
Fiscal Q4 2007 – Q3 2008[1]

Source: SEC Filings



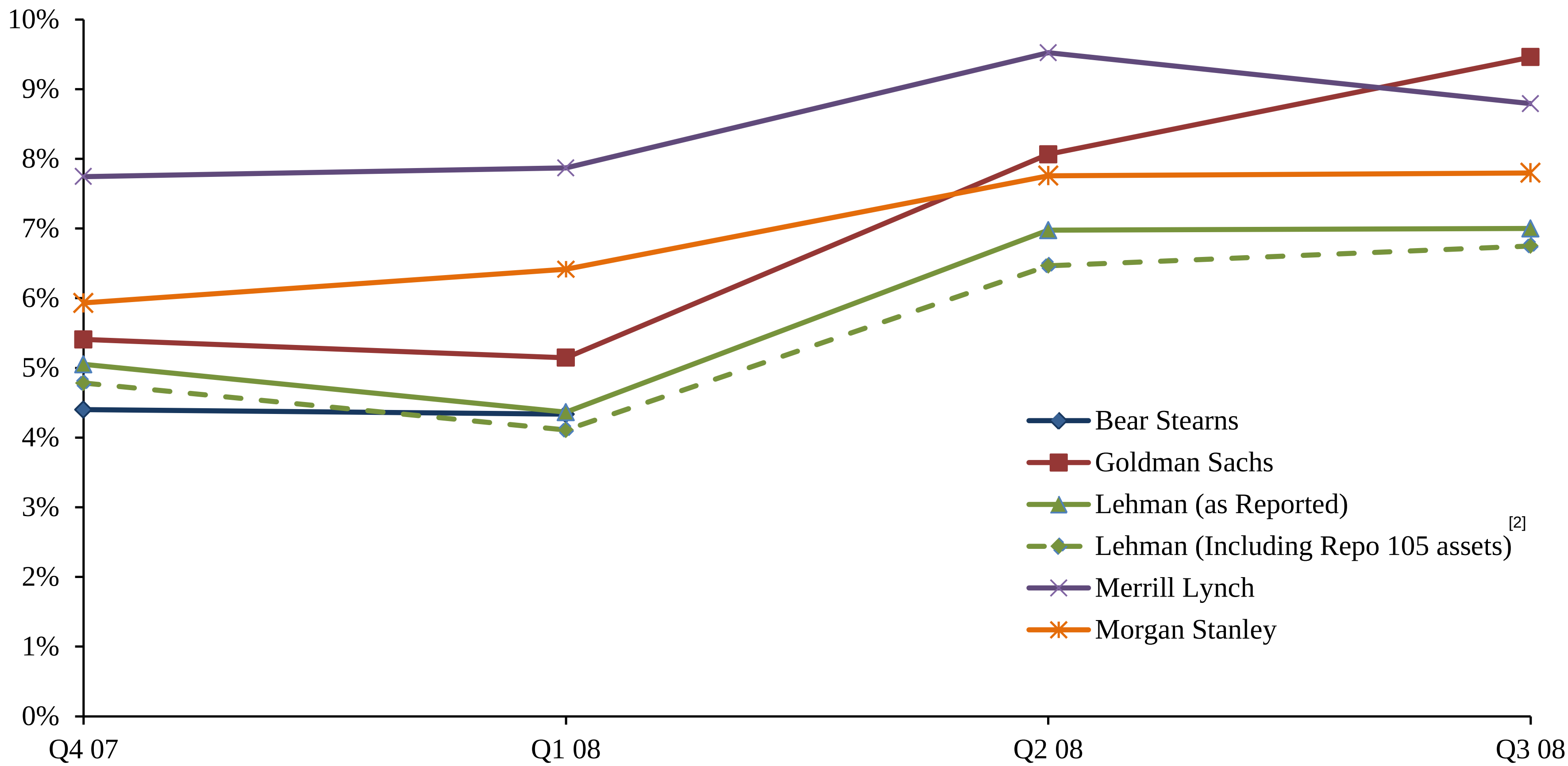
Note:

[1] The fiscal quarter ends for all companies except Merrill Lynch are in February, May, August, and November. Merrill's quarter ends are conventional quarter ends plus or minus a few days.

[2] Includes unencumbered assets at both regulated and unregulated subsidiaries.

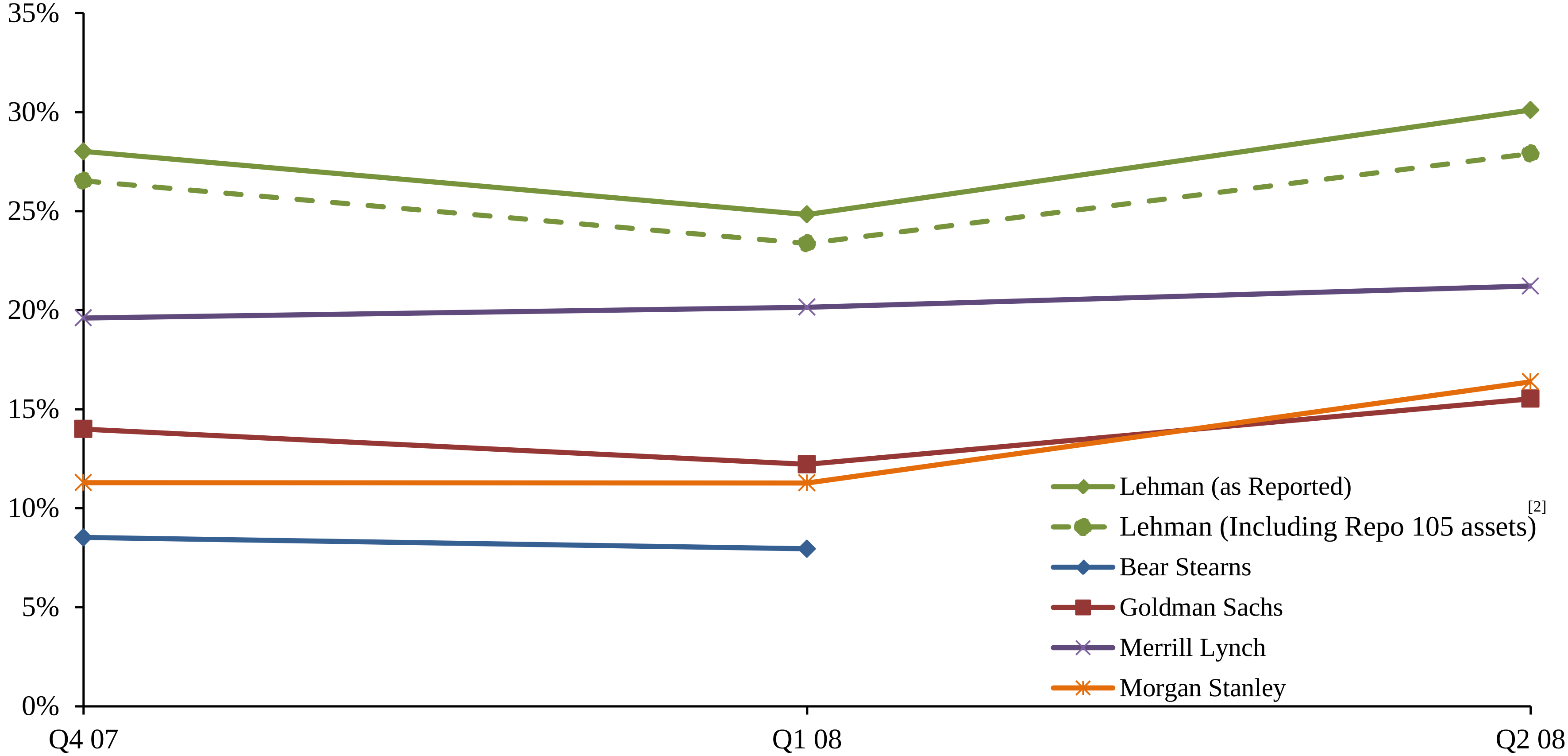
[3] Only the size of Lehman's liquidity pool was discussed in its Q3 2008 press release. Lehman never filed its Q3 2008 10-Q, hence unencumbered asset data are not available.

Exhibit 34
Lehman Brothers and Peers
Liquidity Pool / Total Assets
Fiscal Q4 2007 – Q3 2008[1]
Source: SEC Filings; Examiner's Report, Vol. 3 of 9, p. 891; Vol. 8 of 9, Appendix 17, p. 12



Note:
[1] The fiscal quarter ends for all companies except Merrill Lynch are in February, May, August, and November. Merrill's quarter ends are conventional quarter ends plus or minus a few days.
[2] Consistent with the Examiner's Report, Lehman's net leverage ratio is adjusted by adding the total amount of Repo 105 assets to Lehman's net assets.

Exhibit 35
Lehman Brothers and Peers
Liquidity Pool and Unencumbered Assets (Liquidity Reserve) / Total Assets
Fiscal Q4 2007 – Q2 2008[1]
Source: SEC Filings; Examiner's Report, Vol. 3 of 9, p. 891; Vol. 8 of 9, Appendix 17, p. 12



Note:
[1] The fiscal quarter ends for all companies except Merrill Lynch are in February, May, August, and November. Merrill's quarter ends are conventional quarter ends plus or minus a few days.
[2] Only the size of Lehman's liquidity pool was discussed in its Q3 2008 press release. Lehman never filed its Q3 2008 10-Q, hence unencumbered asset data are not available.

Exhibit 4

In Re Lehman Brothers Securities and ERISA Litigation

Expert Report of Professor Kenneth M. Lehn

October 21, 2013

Table of Contents

I. Qualifications

1. I am the Samuel A. McCullough Professor of Finance in the Joseph M. Katz School of Business at the University of Pittsburgh. I teach undergraduate, graduate, and executive level courses in finance, including courses on business valuation, corporate restructuring, and corporate governance. I also am an affiliated professor of law at the University of Pittsburgh. I have published more than 40 scholarly papers, primarily in the field of corporate finance.

2. I was chief economist of the Securities and Exchange Commission ("SEC") from 1987 to 1991 and deputy chief economist at the SEC from 1984 to 1985. During my tenure at the SEC, my staff and I assisted the SEC's Division of Enforcement and regional offices on dozens of matters involving alleged violations of U.S. securities laws. In most of these cases we were asked to determine whether particular information was material. Since leaving the SEC in 1991, I have been retained on many occasions by the SEC, Department of Justice, and private parties on matters involving alleged violations of U.S. securities laws. In many of these matters, including two matters respectively involving Countrywide Financial Corporation and IndyMac Corporation, I have been asked to form opinions as to materiality, loss causation, and/or damages.

3. I received a B.A. in economics from Waynesburg College in 1975, an M.A. in economics from Miami University in 1976, and a Ph.D. in economics from Washington University in 1981. My curriculum vitae, which lists my publications and testimony during the past four years, is attached as Exhibit 1.

4. I have been assisted in this matter by staff at Cornerstone Research.

5. My compensation in this matter is $850 per hour. My compensation in this matter is not contingent on the outcome of the case.

II. Scope Of Assignment

6. I have been retained by counsel for Ernst & Young ("EY") to address the issues of loss causation and damages for claims brought against EY in the multi-district litigation captioned *In re Lehman Brothers Securities & ERISA Litigation*, No. 09-md-2017-LAK (S.D.N.Y.), related

to EY's role as auditor of Lehman Brothers Holdings, Inc. ("Lehman"). The cases involving EY in this litigation consist of 29 individual suits.

7. I have been asked by counsel to assume that the relevant allegations are that EY issued clean audit opinions and review reports on Lehman's financial statements that were allegedly false and misleading because Lehman made false and misleading statements with respect to its financial reporting for Repo 105s, which allegedly artificially reduced Lehman's net leverage ratio and the size of its balance sheet.[1, 2] Plaintiffs further allege that Lehman's financial reporting for Repo 105s concealed risks, including the risk of future asset write-downs, that later materialized in the events that occurred on the alleged corrective disclosure days.[3]

8. I have been asked to opine as to whether the alleged false and misleading representations and omissions with respect to Lehman's financial reporting for Repo 105s caused plaintiffs to suffer losses on their investments in Lehman securities. Specifically, I have been asked to address the extent to which a lack of disclosure of the effect of Repo 105s on Lehman's reported balance sheet and net leverage ratio concealed risks that ultimately materialized and led to Lehman's demise. It is my understanding that, as of the date of this report, plaintiffs have not specified what they believe Lehman should have disclosed about its Repo 105s. I have been asked to assume that, if anything, EY would have required Lehman to disclose its use of Repo 105 transactions, and the balance sheet effects of such transactions, in the MD&A section of its filings with the SEC. Therefore, to be conservative, I assume that Lehman would have made a specific disclosure that would have provided market participants with the volume of Repo 105 transactions and sufficient information regarding the amounts and types of assets used

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[1] *See* Second Amended Complaint, *California Public Employees' Ret. Sys. v. Fuld et al.*, No. 11-cv-01281 (S.D.N.Y. Nov. 29, 2011) ("CalPERS Second Amended Complaint"), §VII.E; Amended Complaint, *Starr Int'l U.S.A. Invs. LC v. Ernst & Young LLP*, No. 11-cv-3745 (S.D.N.Y. Oct. 4, 2011) ("Starr Amended Complaint"), Count I; Second Amended Complaint, *New Jersey Dep't of Treasury, Div. of Inv. v. Fuld et al.*, No. 10-cv-05201 (S.D.N.Y.) ("New Jersey Second Amended Complaint"), §IV.N; Consolidated First Amended Complaint, *San Mateo County Inv. Pool v. Fuld et al.*, No. 09-cv-01239 (S.D.N.Y. Nov. 29, 2011) ("San Mateo First Amended Complaint") (consolidated complaint with seven other plaintiffs), §IV.K; and Amended Complaint for Violation of the Federal Securities Laws and Washington State Law, *Washington State Inv. Bd. v. Fuld et al.*, No. 09-cv-06041 (S.D.N.Y. Oct. 6, 2011) ("WSIB Amended Complaint"), §VI. Additional claims against EY in the individual actions include professional negligence, negligent misrepresentation, fraud and deceit, aiding and abetting fraud, breach of fiduciary duty, aiding and abetting breach of fiduciary duty, and violation of California Corporations Code §25504.2.

[2] This includes the effect, if any, of Repo 105s on Lehman's financial statements, notes to the financial statements, and Management's Discussion and Analysis ("MD&A") sections of Lehman's 10-Ks and 10-Qs.

[3] Throughout this report, I refer to Repo 105s and Repo 108s collectively as "Repo 105s."

in Repo 105s, which would allow market participants to determine the impact of Repo 105s on Lehman's net leverage ratio (hereafter referred to as "disclosure of Lehman's Repo 105s"). I understand that such a disclosure corresponds to the allegations that have been pled.[4]

9. My understanding is that Professor Allen Ferrell, in a report to be filed on the same date as this report, addresses whether a disclosure of Lehman's Repo 105s would have had a meaningful effect on the market's assessment of Lehman's financial condition. Professor William Chambers, in a report also to be filed on the same day as this report, addresses the extent to which credit ratings assigned to Lehman by Moody's Investors Service ("Moody's"), Standard and Poor's ("S&P"), and Fitch Ratings ("Fitch") would have been affected had the ratings agencies known about Lehman's financial reporting for Repo 105s.[5] I have reviewed Professor Ferrell's and Professor Chambers' reports and find that their conclusions are consistent with my conclusions in this report.

10. Many of my opinions are applicable to all of the individual matters. However, at the request of counsel, this report focuses on five individual actions brought by the following plaintiffs: (1) the California Public Employees' Retirement System ("CalPERS"); (2) Starr International U.S.A. Investments LC and C.V. Starr & Co., Inc. Trust (collectively "Starr"); (3) the State of New Jersey, Department of Treasury, Division of Investment ("New Jersey"); (4) the San Mateo County Investment Pool ("San Mateo"); and (5) Washington State Investment Board ("WSIB"). I also have been asked to evaluate any opinions offered by plaintiffs' experts on loss causation and damages and possibly submit a rebuttal report. I reserve the right to supplement my opinions in response to any such reports and address any additional allegations or theories of loss causation and damages that may be presented therein that are not considered in this report.

11. For the five individual actions, I have been asked to address the Rule 10b-5 claims against EY contained in the CalPERS complaint for purchases of common stock as early as June 12, 2007 through September 12, 2008 (the "Relevant Period"),[6] as well as Rule 10b-5 claims made by San Mateo on certain of its bond purchases and by Starr on its purchases of

[4] *See, e.g.*, CalPERS Second Amended Complaint, ¶2.

[5] I therefore do not address the impact on ratings agencies of a disclosure of Lehman's Repo 105s. However, I do analyze information contained in the ratings agencies' public reports and statements to the extent it is relevant in assessing loss causation and damages in this matter.

[6] CalPERS Second Amended Complaint, ¶1, and Starr Amended Complaint, ¶111.

preferred and common stock. I also have been asked to address Section 11 claims relating to purchases of Lehman common stock, preferred stock, and bonds that occurred as early as August 21, 2006. Collectively, the plaintiffs allege seven corrective disclosure dates: June 9, 2008, July 10, 2008 (and the subsequent decline on July 11, 2008), July 25, 2008, September 8, 2008, September 9, 2008, September 10, 2008, and September 15, 2008. Exhibit 3 contains a summary of claims, securities at issue, and alleged corrective disclosure days for the five individual actions.[7]

12. Exhibit 2 lists materials I have relied upon in preparing my report.

III. Summary Of Opinions

13. There is no reliable basis to conclude that the alleged misrepresentations regarding Lehman's financial reporting for Repo 105s caused plaintiffs to suffer losses on their holdings of Lehman securities. Hence, there are no damages in this matter. None of the losses suffered by the individual plaintiffs on their investments in Lehman's common stock, preferred stock, and bonds was caused by the materialization of risks allegedly concealed by Lehman's financial reporting for Repo 105s.

14. Lehman's failure, and the attendant declines in the value of Lehman's securities, was caused by a confluence of events that are distinct from, and not concealed by, Lehman's financial reporting for Repo 105s. The events include (1) a severe decline in the value of Lehman's residential and commercial real estate assets and other illiquid assets and (2) uncertainty about the value of those assets, which, combined with an overall contraction in credit markets, led to a liquidity crisis at Lehman.

15. First, market participants were aware of Lehman's exposure to real estate–related and other illiquid assets, and the extent of Lehman's exposure was not concealed by its financial reporting for Repo 105s. Market participants were also aware that declining real estate values and the tightening of credit markets posed a risk of future write-downs of Lehman's assets. Disclosure of Lehman's Repo 105s—and the high-quality and liquid assets used in its

[7] I have not been asked to address loss causation or damages for any claims other than Section 10(b) and Section 11, such as professional negligence and fraudulent misrepresentation. However, to the extent the issues of loss causation and/or damages for these other claims are similar to Section 10(b) or Section 11, my loss causation and damages analysis would be equally applicable to these claims.

Repo 105s—would not have altered the market's assessment of Lehman's illiquid asset risk, a risk that materialized at Lehman and was a cause of plaintiffs' losses.

16. Second, the market was aware of the liquidity risk that materialized for Lehman, and this risk was not concealed by Lehman's financial reporting for Repo 105s. Furthermore, Lehman's filing for bankruptcy was not a foreseeable consequence of the liquidity risk. Market participants generally considered Lehman's liquidity risk to be mitigated by Lehman's large liquidity pool and unencumbered assets, the Federal Reserve System's (the "Federal Reserve" or the "Fed") lending programs, and a belief that a strategic acquirer would likely emerge and/or the U.S. government would likely bail out or assist in a takeover of Lehman if a liquidity crisis ensued. Disclosure of Lehman's Repo 105s would not have made Lehman's bankruptcy a foreseeable consequence of a liquidity crisis.

IV. Background

A. Lehman Brothers

17. Lehman was the fourth-largest investment bank in the U.S. based on both its total revenues and its market capitalization.[8] According to its fiscal 2007 10-K, it was a "global market-maker in all major equity and fixed income products."[9] It operated in three business segments: Capital Markets, Investment Banking, and Investment Management. Capital Markets primarily represented institutional client-flow activities, including secondary trading, financing, mortgage origination and securitization, prime brokerage and research activities in fixed income and equity products. These products included a wide range of cash, derivative,

[8] Deutsche Bank, "Lehman Brothers Holdings – Initiating coverage with a Buy rating," April 11, 2007, p. 1. Among the major investment banks (Goldman Sachs, Morgan Stanley, Merrill Lynch, Lehman, and Bear Stearns), Lehman was the fourth largest according to total revenue as of fiscal 2007 ($87,968 million, $85,328 million, $62,675 million, $59,003 million, and $16,151 million, respectively) and market capitalization as of January 29, 2008 ($77,964 million, $52,244 million, $49,047 million, $33,260 million, and $10,574 million, respectively). The Goldman Sachs Group, Inc., Form 10-K for the fiscal year ended November 30, 2007, filed January 29, 2008 ("Goldman Sachs fiscal 2007 10-K"); Morgan Stanley, Form 10-K for the fiscal year ended November 30, 2007, filed January 29, 2008, p. 103 ("Morgan Stanley fiscal 2007 10-K"); Merrill Lynch, Form 10-K for the fiscal year ended December 28, 2007, filed February 25, 2008 ("Merrill Lynch fiscal 2007 10-K"); Lehman Brothers Holdings, Inc., Form 10-K for the fiscal year ended November 30, 2007, filed January 29, 2008 ("Lehman fiscal 2007 10-K"); The Bear Stearns Companies, Inc., Form 10-K for the fiscal year ended November 30, 2007, filed January 29, 2008 ("Bear Stearns 2007 fiscal 10-K"); Center for Research on Security Prices ("CRSP").

[9] Lehman fiscal 2007 10-K, p. 3.

secured financing, and structured instruments and investments. The Capital Markets segment also included principal investing and proprietary trading activities including investments in real estate, private equity, and other long-term investments. Investment Banking provided advice to corporate, institutional, and government clients throughout the world on mergers, acquisitions, and other financial matters. Investment Banking also raised capital for clients by underwriting public and private offerings of debt and equity instruments. Investment Management provided strategic investment advice and services to institutional and high-net-worth clients on a global basis.[10]

18. Lehman was founded in 1850. In 1984, the company was acquired by American Express and merged with its retail brokerage business. It was spun off by American Express in 1993 in an initial public offering as Lehman Brothers Holdings, Inc.[11] Its common stock traded on the NYSE from May 2, 1994 to September 17, 2008.[12] In addition to its common stock, the company also had numerous bonds and preferred stock securities outstanding. Exhibits 4, 5, and 6 contain price charts of Lehman's securities at issue in the five individual actions I have been asked to address.

B. The Investment Banking Industry

19. Lehman competed with numerous companies that provided financial services. Lehman's competitors included other major investment banks such as Goldman Sachs, Merrill Lynch, Morgan Stanley, and Bear Stearns. It also competed against other large financial services firms that provided investment banking services, such as Citigroup, J.P. Morgan, and Bank of America.[13]

20. Historically, investment banks were highly leveraged as compared with non-financial firms, with average leverage ratios (defined as total assets divided by book equity) in the range of between 20 and 30 to 1, compared with corresponding ratios of between 1 and 3 to 1 for the

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[10] Lehman fiscal 2007 10-K, pp. 3–9.

[11] "History of Lehman Brothers," Harvard Business School, accessed at http://www.library hbs.edu/hc/lehman/history html.

[12] Bloomberg. Lehman's stock was halted from trading following the announcement of suspension on September 17, 2008. Lehman 8-K, filed September 17, 2008.

[13] *See, e.g.*, Lehman Brothers Holdings, Inc., Form DEF 14A, filed March 5, 2008, p. 20.

average non-financial company.[14] The heavy reliance on leverage by investment banks reflects an inherent difference in the business models of investment banks and non-financial firms. Investment banks frequently adjust their leverage in response to liquidity conditions and macroeconomic conditions. As a result, investment banks typically have high leverage during business cycle peaks and low leverage during business cycle troughs.[15]

21. Leverage at investment banks is achieved through both short-term and long-term sources of financing. Both types of financing can be either unsecured or secured by assets of the borrower. Historically, investment banks have relied on large amounts of short-term financing to meet liquidity needs. Short-term financing generally includes commercial paper[16] and bank notes, which are unsecured, and repurchase agreements ("repos") and loaned securities, which are secured. As shown in Exhibit 7, the most common form of short-term debt used by investment banks are repos.

22. Lehman's business model was similar to the business models of other investment banks in that they historically relied on high levels of leverage. One metric typically reported by investment banks to measure leverage is the net leverage ratio (also referred to as the adjusted leverage ratio by certain of Lehman's peers).[17] Although companies differ in how they calculate net leverage, net leverage is generally defined as net assets divided by tangible equity capital.[18] Lehman calculated net assets as total assets minus (i) cash and securities segregated and on deposit for regulatory and other purposes; (ii) collateralized lending agreements; and (iii) identifiable intangible assets and goodwill, and it calculated tangible equity capital as

[14] David P. Stowell, *An Introduction to Investment Banks, Hedge Funds, and Private Equity: The New Paradigm* (Burlington, MA: Elsevier, 2010), 186.

[15] David P. Stowell, *An Introduction to Investment Banks, Hedge Funds, and Private Equity: The New Paradigm* (Burlington, MA: Elsevier, 2010), 186; *See also* GAO, *Financial Crisis Highlights Need to Improve Oversight of Leverage at Financial Institutions and across System*, May 6, 2010, p. 6 ("For securities firms, hedge funds, and other financial intermediaries that operate mainly through the capital markets, their balance sheet leverage, or ratio of total assets to equity, tends to be procyclical. Historically, such institutions tended to increase their leverage when asset prices rose and decrease their leverage when asset prices fell. Consistent with this trend, the ratio of assets to equity for five large broker-dealer holding companies, in aggregate, increased from an average ratio of around 22 to 1 in 2002 to around 30 to 1 in 2007.").

[16] Commercial paper generally is unsecured, short-term debt (with maturities between one and 270 days) issued by companies to meet short-term funding requirements; it usually is refinanced through new issuances. David P. Stowell, *An Introduction to Investment Banks, Hedge Funds, and Private Equity: The New Paradigm* (Burlington, MA: Elsevier, 2010), 184.

[17] Lehman and its peers also reported a gross leverage ratio, defined generally as total assets divided by total equity.

[18] *See, e.g.*, Lehman fiscal 2007 10-K, pp. 63–64; Goldman Sachs fiscal 2007 10-K, pp. 81–82; Morgan Stanley fiscal 2007 10-K, pp. 68–69; Merrill Lynch fiscal 2007 10-K, p. 56; and Bear Stearns fiscal 2007 10-K, pp. 52–53.

stockholders' equity plus junior subordinated notes minus identifiable intangible assets and goodwill.[19] Exhibit 8 shows that the net leverage ratio of Lehman and its peers increased from 2004 to 2007 when economic conditions were strong. Exhibits 9 and 10 illustrate that the increase in Lehman's net leverage ratio during 2005 to 2007 coincided with increases in its stock price and net income.[20]

C. Repos

23. Repos are agreements in which one party transfers financial assets to another party in exchange for cash, while simultaneously agreeing to repay the cash and repurchase the assets at a specific point in time. When the repo transaction matures, the borrower repays the funds plus an agreed-upon interest rate or other charge and takes back the assets it transferred.[21] Repos usually are short-term agreements and typically carry maturities of overnight, one week, or one month.

24. There are two general types of repos: bilateral and tri-party repos. Each type can be either dealer to dealer ("interdealer") or between dealers and other counterparties such as securities lenders, money market funds, hedge funds, and other institutional investors. In the U.S., the tri-party repo market accounts for approximately two-thirds of all repos.[22] At peak levels in 2008, over $2.8 trillion was being financed through the U.S. tri-party repo market.[23]

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[19] *See, e.g.*, Lehman fiscal Q1 2008 10-Q, p. 72. "Prior to fiscal year 2008, [Lehman's] definition for tangible equity capital limited the amount of junior subordinated notes and preferred stock included in the calculation to 25% of tangible equity capital." "Lehman Brothers Reports First Quarter Results," *PR Newswire*, March 18, 2008, p. 6.

[20] [redacted] (Deposition of Bart McDade, June 21, 2013, 214:4–24). [redacted] (Deposition of Paolo Tonucci, July 3, 2013, 321:11–13).

[21] Throughout my report, I refer to repos interchangeably as transfers or sales of financial assets in exchange for cash (with a future obligation to repurchase the financial assets at a later date) and collateralized financing. Accordingly, I also refer to the entity that receives the cash as the transferor, seller, and/or borrower. I understand that for an investment bank, repos can be used for financing purposes or as a trading transaction. I understand that depending on the facts and circumstances repos are to be accounted for as secured financing or as sales.

[22] "What is tri-party repo?," International Capital Market Association.

[23] Task Force on Tri-Party Repo Infrastructure, May 17, 2010, p. 3.

Some large cash investors in the tri-party repo market are securities lenders and money market funds.[24]

25. In the U.S., the financial assets most commonly used in repos include U.S. government and Federal agency securities, highly rated mortgage-backed bonds and corporate bonds, and money market instruments.[25] Financial assets that pose substantial credit and/or liquidity risks also can be exchanged in repos, with haircuts typically applied in proportion to the riskiness of the asset and the riskiness of the counterparty (i.e., the amount of cash received is some amount less than the full value of the assets exchanged).

D. Repo 105s And Their Impact On Lehman's Financial Statements

26. Repo 105s were accounted for as sales as opposed to secured financings, in part because the assets sold in Repo 105s had haircuts of approximately 5% or more as compared with usual haircuts of approximately 2% for repos accounted for as secured financing during the same time period.[26,27]

27. I understand that for repos accounted for as secured financings, Lehman added the cash received to its assets on the balance sheet and recorded a collateralized financing liability, while also keeping the securities sold in the repo as assets on the balance sheet. Therefore, the use of these repos had the effect of increasing both total assets (cash) and liabilities by the amount of cash received. However, if the cash received through the repo was used to pay down other liabilities, there was no net change to the overall size of Lehman's balance sheet.

28. I also understand that for Repo 105s, which were accounted for as sales, Lehman added the cash received to its assets on the balance sheet, removed the financial assets sold in the

[24] "Mapping and Sizing the U.S. Repo Market," Federal Reserve Bank of New York, June 25, 2012.

[25] "What types of asset are used as collateral in the repo market?," International Capital Market Association.

[26] I understand that the haircut is the percent of the over-collateralization measured relative to the value of the securities exchanged, whereas the initial margin is the percent of the over-collateralization measured relative to the amount of cash received. For example, a Repo 105 transaction in which $105 in securities is exchanged for $100 in cash has a haircut of 4.76% (1- $100/$105) and an initial margin of 5% ($105/$100 - 1). However, for simplicity, I refer to the minimum Repo 105 haircut as 5% throughout this report. *See, e.g.,* Deposition of John Feraca, June 18, 2013, 77:2–13.

[27] The assets used in Repo 105s were typically fixed income securities and the assets used in Repo 108s were typically equity securities. Lehman personnel have testified that the haircut for Repo 108s was approximately 8%. See Deposition of John Feraca, June 18, 2013, 26:10–19 and 77:2–13; [redacted] Deposition of Edward Grieb, May 16, 2013, 27:14–28:21 and 86:20–87:12. I understand from counsel that according to Lehman's policy, the minimum haircut was 7% when equity securities were used.

Repo 105 from inventory, and added a derivative asset related to its forward repurchase commitment in an amount equal to the difference between the value of the financial asset transferred and the cash received (i.e., the "haircut"). Hence, total assets and liabilities did not change upon entering into a Repo 105 transaction. However, if the cash received was used to pay down other liabilities, which I understand is what plaintiffs claim Lehman did with Repo 105 cash, Lehman's balance sheet was reduced by the amount of financing received.

29. Lehman began using Repo 105s in approximately 2001.[28] Lehman's use of Repo 105s increased from $24.5 billion at the end of fiscal Q4 2006 to $50.4 billion at the end of fiscal Q2 2008.[29] Because total assets are part of the numerator for net leverage ratios, a reduction in total assets through the use of the cash received in Repo 105s to pay down other liabilities had the effect of reducing Lehman's leverage ratio relative to repos accounted for as secured financings. Exhibit 11 compares Lehman's use of Repo 105s and its reported net leverage ratio with an adjusted net leverage ratio that includes the assets used in Lehman's Repo 105s.[30]

30. The types of assets Lehman sold in its Repo 105s were mostly comprised of high-quality, liquid assets. As shown in Exhibit 12, the vast majority of assets used in Repo 105 transactions were U.S. Treasuries, agency securities, and other creditworthy sovereign debt.[31] Additionally, the fixed income assets used in Repo 105s had an overall strong credit profile—more than 90% of the amount of assets used had a credit rating of A or better.[32]

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[28] *See, e.g.*, Deposition of John Feraca, June 18, 2013, 106:7–9.

[29] Examiner's Report, p. 891.

[30] The calculations contained in this report that are adjusted to include the assets used in Repo 105s conservatively reflect the maximum impact on reported ratios, as I assume that the entire amount of the cash received was used to pay down other liabilities and I do not adjust for the recorded derivative asset reported on Lehman's balance sheet, which is consistent with the reported pro-forma methodology contained in the Examiner's Report. *See* Examiner's Report, p. 889.

[31] I understand that Repo 108s involved the sale of equity securities. According to the Examiner's Report, approximately 3% of the Repo 105 assets were collateralized debt obligations ("CDOs"), collateralized loan obligations ("CLOs"), non-agency mortgage-backed securities ("MBS"), commercial mortgage-backed securities ("CMBS"), other asset-backed securities ("ABS"), credit-linked notes, non-G7 corporates, equities, money markets, convertibles, Lehman paper, and other securities. See Duff & Phelps' October 21, 2009 Repo 105 Usage – by Security Type, incorporated by reference into Appendix 17 of Examiner's Report. It is my understanding that Duff & Phelps' report has not been made available in this matter.

[32] Duff & Phelps' October 21, 2009 Repo 105 Usage – by Credit Rating was incorporated by reference into Appendix 17 of Examiner's Report.

V. Lehman Failed Because Of Large Declines In The Value Of Its Real Estate And Other Illiquid Assets And Its Subsequent Loss Of Liquidity

31. Lehman's failure was caused by a confluence of events that are distinct from, and not concealed by, Lehman's financial reporting for Repo 105s. The events include (1) a large decline in the value of its residential and commercial real estate assets and other illiquid assets and (2) uncertainty about the value of those assets, which, combined with an overall contraction in credit markets, resulted in a liquidity crisis at Lehman. Lehman succumbed to a "run on the bank," as Lehman's counterparties withdrew funding, demanded increasingly greater collateralization on borrowings, clearing exposures, and derivatives positions, and began to move their business away from Lehman.[33] The risk of further deterioration in the value of Lehman's real estate and other illiquid assets and the resulting run, culminating in Lehman's demise, was not concealed by Lehman's financial reporting for Repo 105s.

A. Real Estate And Credit Market Conditions Had An Increasingly Adverse Effect On Financial Institutions In 2007

32. The crisis facing financial institutions began with a decline in the value of residential real estate in 2007. The decline in housing prices adversely affected the U.S. mortgage industry, which included financial institutions, such as Lehman, that held substantial amounts of mortgage-related assets. Exhibit 13 displays the S&P/Case-Shiller Home Price Index of 10 and 20 U.S. metropolitan regions, as well as an estimated national index. The chart shows rapid growth in U.S. home prices from 2000 through the peak in 2006, and then sharp declines in 2007 and 2008. Because mortgages are collateralized by their underlying homes, declining home prices reduce the value of existing mortgages and increase the credit risk of new mortgages which, in turn, adversely affect the businesses of mortgage origination and securitization.

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[33] "Lehman reported further losses on September 10, and announced plans to restructure the firm. The panic also affected Lehman's trading counterparties, which began to lose confidence in the firm. Many of these counterparties withdrew short-term funding, demanded increasingly greater overcollateralization on financing or clearing exposures, demanded more collateral to cover their derivatives positions and subsequently began to move their business away from Lehman. Lehman's clearing banks also began to demand billions of dollars of additional collateral." "The Orderly Liquidation of Lehman Brothers Holdings Inc. under the Dodd-Frank Act," *FDIC Quarterly* 5, no. 2 (2011): 2.

33. The volume of mortgage originations was highly correlated with housing prices during 2001 through 2008. Exhibit 14 shows that U.S. mortgage originations grew substantially from 2001 to 2003 and remained high through 2006, as housing prices increased, and declined thereafter, as housing prices declined sharply. A major component of the growth and decline in mortgage originations during this period was subprime mortgages, which are mortgages made to less-than-prime borrowers and are characterized by higher interest rates, lower quality of collateral, and less favorable lending terms to compensate for the higher credit risk. Exhibit 15 shows that originations of subprime mortgages quadrupled from 2001 to 2005, and then declined by 96% from 2006 to 2008. In addition to a sharp decline in mortgage originations, the market for residential mortgage-backed securities had plummeted by 2008. Exhibit 16 demonstrates that the issuance of non-agency mortgage-backed securities declined by 94% from 2007 to 2008.

34. Concerns among market participants about conditions in mortgage markets began around February 2007 with the increase in subprime mortgage defaults.[34] Early signs of the mortgage crisis were seen in February 2007, a month when prices of the ABX BBB- tranches plunged by more than 20%.[35] Equity analysts in February 2007 commented that "there remains a focus on Lehman's exposure to mortgages and the subprime segment in particular."[36]

35. During 2007, market participants commented on how declining housing prices were adversely affecting the mortgage industry. For example, in a November 12, 2007 report, titled "Global Investment Banks Face Toughest Quarter In Nearly A Decade," Standard & Poor's stated that:

> In third-quarter 2007, the major investment banks faced the most difficult market conditions since at least 1998, when the collapse of Long-Term Capital Management and the Russian default roiled the capital markets. Amidst the uncertainty linked to the disruptions in the subprime mortgage and leveraged finance sectors, financial performance at these firms has varied over a wide range….

[34] Markus K. Brunnermeier, "Deciphering the Liquidity and Credit Crunch 2007-2008," *The Journal of Economic Perspectives* 23, no. 1 (Winter 2009).

[35] Gary Gorton, "The Panic of 2007" (Yale School of Management, International Center for Finance, working paper, August 2008): 57.

[36] Credit Suisse, "Credit Suisse Fin'l Services Forum Highlights," February 7, 2007, p. 1.

> [P]rospects for the mortgage sector remain clouded. The U.S. housing markets and subprime finance continue to deteriorate. And the broader economy is just beginning to feel the impact of tighter credit conditions. Recent experience has underscored the sensitive nature of capital market sentiments. There is little question that investment banks' financial performance would suffer from a general economic downturn. A recession would directly affect corporate credit quality, which, in turn, would negatively affect the investment banks' equity underwriting, trading activity, and retail brokerage operations, among other business lines.[37]

36. By August 2007, problems in the U.S. mortgage market had spilled over into the short-term debt and credit markets. Exhibit 17 demonstrates a substantial contraction in the asset-backed commercial paper market beginning in August 2007. Coincident with the contraction in the asset-backed commercial paper market, credit spreads increased dramatically beginning in August 2007, as shown in Exhibit 18, which charts the TED spread. The TED spread reflects the yield difference between the three-month Treasury Bill and three month LIBOR (the inter-bank lending rate). Higher TED spreads reflect higher perceived counterparty default risks, as banks are requiring greater interest rates to compensate for the increased riskiness of lending to each other. In August 2007, the *Wall Street Journal*, citing the head of quantitative equity strategies for Lehman, recognized the importance of the tightening credit markets:

> "Wednesday is the type of day people will remember in quant-land for a very long time," Matthew Rothman, head of quantitative equity strategies for Lehman Brothers told the Wall Street Journal last week. "Events that models only predicted would happen once in 10,000 years happened every day for three days."[38]

37. In a speech on September 10, 2007, Federal Reserve Governor Frederic Mishkin acknowledged investors' perception that credit risks may be more pervasive than previously thought:

> In mid-August [2007], following several events that led investors to believe that credit risks might be larger and more pervasive than previously thought, the functioning of financial markets, including short-term and interbank funding

[37] Standard & Poor's, "Global Investment Banks Face Toughest Quarter In Nearly A Decade," November 9, 2007.
[38] "One 'Quant' Sees Shakeout For the Ages-'10,000 Years,'" *Wall Street Journal*, August 11, 2007.

> markets, became increasingly impaired. Notably, many asset-backed commercial paper programs found rolling over their paper increasingly difficult.[39]

38. By late 2007, issues stemming from the residential mortgage crisis spilled over into the commercial real estate market. The MIT Transaction-Based Price Index illustrates declining commercial real estate values beginning in calendar Q3 2007, as shown in Exhibit 19, while the Moody's/RCA Commercial Property Index indicates that commercial real estate prices peaked around December 2007, as shown in Exhibit 20. Exhibit 21 shows that securitizations of commercial mortgage-backed assets declined by 91% from 2007 to 2008.

39. The turmoil in the U.S. mortgage market in 2007 and 2008 is evident by a sharp increase in the number of mortgage-related companies that failed or were acquired during this period. Exhibit 22 shows that the annual number of company failures in the mortgage industry increased from 8 in 2005 and 32 in 2006, to 167 in 2007 and 127 in 2008.

40. Market participants recognized the impact of the deteriorating real estate and credit markets on Lehman and other major investment banks. Market participants understood by late 2007 that Lehman and other major investment banks were at risk for substantial losses, which could create additional capital and funding needs, because of their exposure to real estate and other illiquid assets that were declining sharply in value. Investment banks also rely on well-functioning credit markets for revenues, as investment banks help other companies access credit markets, as well as for their own funding needs. In 2007, analysts noted:

> [T]he bigger question for investors is will the mortgage meltdown and various credit-related implosions significantly impact the broader economy and cause GDP growth to slip to recessionary levels (last week's jobs report didn't help matters)? ... Unfortunately, the industry thrives on global growth and CEO confidence and if we slip to sub 2% levels, management feels earnings growth will be a lot tougher to come by.[40]

> We also are concerned about the firm's heavy exposure to commercial real estate, which we believe is largely unhedged and may drive material losses in future quarters if current trends persist. Meanwhile, LEH's risk-taking exposure

[39] Governor Frederic S. Mishkin, "Outlook and Risks for the U.S. Economy" (speech delivered to the Money Marketeers of New York University, September 10, 2007).

[40] UBS Investment Research, "Managing Through the Storm," September 11, 2007, p. 3.

> continues to increase, creating further potential for large swings in P&L going forward.[41]
>
> With all that said, there continue to be a handful of key issues (some Lehman specific, but mostly industry-related) that keep us up at night. First and foremost, realize that Lehman (and others) are now not just writing down subprime & CDO assets, as this quarter included valuation hits across commercial real estate & CMBS, Alt-A, and even corporates and prime mortgages (nowhere to hide when spreads widen out across the board). Additionally, given the limited visibility/liquidity, most investors we speak to continue to question if the marks have been aggressive enough (in this case, is $3.5 billion in gross write-downs enough on a $90 billion portfolio of residential & commercial mortgages?).[42]

41. Exhibit 23 shows the stock prices of Lehman and other major investment banks compared to the NYSE Index from January 3, 2006 through December 31, 2008. The graph shows that the stock prices of Lehman and its peers began falling in late 2007 as market conditions deteriorated.

B. Lehman Pursued An Aggressive, Risky Growth Strategy, Which Included Increasing Its Real Estate Exposure Through 2007

42. Lehman had significant exposure to the residential and commercial mortgage markets, primarily through its Fixed Income Capital Markets division. Lehman participated in various activities related to the origination, securitization, and sale of residential and commercial mortgages and mortgage-backed products, as discussed in its fiscal 2007 10-K:

> We originate commercial and residential mortgage loans through LB Bank, Bankhaus and other subsidiaries in the U.S., Europe and Asia. We are a leading underwriter of and market-maker in residential and commercial mortgage- and asset-backed securities and are active in all areas of secured lending, structured finance and securitized products. We underwrite and make markets in the full range of U.S. agency-backed mortgage products, mortgage-backed securities, asset-backed securities and whole loan products. We are also a leader in the global market for residential and commercial mortgages (including multi-family

[41] UBS Fixed Income Research, "Lehman Brothers Holdings, Inc.: A Hedge Above the Rest?," December 13, 2007, p. 1.
[42] UBS Investment Research, "Solid Risk Mgmt, But Tough Environment," December 14, 2007, p. 2.

> financing) and leases and have an established private student loan origination platform.[43]

43. In addition to Lehman's origination and securitization of mortgages, it also invested in commercial real estate in the form of debt, joint venture equity investments, and direct ownership interests.[44] By November 2007, Lehman's mortgage and asset-backed securities and real estate held for sale had grown to $111 billion, or 35.5% of its financial instruments and other inventory positions owned.[45]

44. Lehman's disclosures in 2007 acknowledged that its mortgage and credit-related risks were increasing and that these risks had implications for its financial condition. During the third and fourth quarters of 2007, Lehman restructured its global residential mortgage origination business. The restructuring included rescaling operations in the U.S. and U.K. "due to market conditions and product revisions"[46] and closing both its subprime origination platform (BNC Mortgage, LLC) and Korean mortgage business. By January 2008, Lehman also had suspended its wholesale and correspondent lending activities. In its fiscal 2007 10-K, Lehman summarized the business environment in the second half of 2007 as follows:

> During the second half of the 2007 fiscal year, the global economy was impacted by the deterioration within the U.S. subprime residential mortgage asset category, the weakening of the U.S. housing sector became worse than most observers expected and dislocations began to occur beyond the residential mortgage component of credit markets. Also during the latter part of the 2007 fiscal year, risk aversion escalated following rating agency downgrades of certain structured assets which, in part, led to many market participants re-pricing assets and taking large write-downs. Central banks sought to prevent a more serious downturn by central bank interest rate and liquidity actions. Our fiscal year ended with dislocated inter-bank markets, constrained bank balance sheets and credit uncertainty regarding monoline issuers and structured investment vehicles.[47]

45. In December 2007, Lehman's Global Head of Risk Management began Lehman's year-end earnings conference call by addressing the "extremely difficult market environment":

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[43] Lehman fiscal 2007 10-K, p. 5.
[44] Lehman fiscal 2007 10-K, p. 5.
[45] Lehman fiscal 2007 10-K, p. 103.
[46] Lehman fiscal 2007 10-K, p. 5.
[47] Lehman fiscal 2007 10-K, p. 35.

> [C]onditions reversed dramatically in November as we saw a major wave of risk aversion prompted by rating agency downgrades of certain structured products, asset re-pricing leading to large write-downs, unresolved issues with [SIVs], and dislocations in the interbank market. These factors resulted in higher risk premiums across the board and fundamental questions about the valuation of securities.
>
> …
>
> The sell-off in the later part of the quarter reflected weaker corporate earnings, renewed concerns about credit and the consumer, oil reaching all-time highs, and a further slowdown in housing. Volatility rose dramatically. In fact, it was the most volatile November for the S&P 500 since 1987. The Investment Banking weaker valuations, higher credit spreads and increased volatility in the secondary markets also had a negative impact on underwriting activity. Industry-wide fixed income underwriting volumes fell 29% on a sequential basis.[48]

46. Although Lehman acknowledged the sharp and persistent contraction in the U.S. mortgage market throughout 2007, it continued to pursue an aggressive, risky growth strategy. Lehman increased its real estate exposure sharply during 2007. As shown in Exhibit 24, Lehman's ownership of real estate–related assets increased by 65% from fiscal year-end 2006 to fiscal year-end 2007. Its ownership of mortgage and asset-backed securities increased from $57.7 billion to $89.1 billion, a 54.4% increase, and its real estate held for sale increased from $9.4 billion to $21.9 billion, a 133.0% increase.[49] The expansion of Lehman's mortgage-related assets culminated in its May 2007 commitment to a joint venture to purchase the Archstone-Smith REIT, which owned approximately 80,000 apartments.[50] In March 2008, Lehman noted that it had $2.3 billion of non-investment grade debt related to that transaction and $2.2 billion of equity related to the Archstone investment.[51]

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[48] Q4 2007 Lehman Brothers Holdings Inc. Earnings Call Transcript, December 13, 2007.

[49] Lehman increased its exposure to illiquid real estate assets during this period using long-term funding sources. Illiquid asset positions, including illiquid commercial mortgages and real estate positions, were funded using cash capital, defined as the sum of stockholder's equity, long-term debt (liabilities with remaining term of one year or more), and a portion of core deposit liabilities at Lehman's bank subsidiaries. Therefore, Lehman did not rely on short-term funding sources (such as repos) to increase its exposure to these investments. *See, e.g.*, Lehman Brothers Holdings Inc. Form 10-Q for the quarterly period ended May 31, 2008, filed July 10, 2008 ("Lehman fiscal Q2 2008 10-Q"), p. 81.

[50] "Lehman's Property Bets Are Coming Back to Bite --- Archstone and SunCal Investments Were Made in Already Heated Markets," *Wall Street Journal*, June 10, 2008.

[51] Q1 2008 Lehman Brothers Holdings Inc. Earnings Conference Call, March 18, 2008.

47. SEC Chairman Mary Schapiro, in testimony before the House Financial Services Committee in 2010, acknowledged that the "seeds of Lehman's failure" were sown well before 2008 as Lehman continued its high-risk growth strategy throughout 2007:

> In retrospect, the seeds of Lehman's failure were sown well before 2008. Key risk-taking activities that eventually contributed to Lehman's collapse began when the firm embarked in 2006 on an aggressive growth strategy…. After the subprime mortgage crisis emerged, Lehman scaled back exposures in this area, but continued its growth strategy and increased its exposures to leveraged finance and to commercial real estate before liquidity dried up in these markets beginning in August 2007.[52]

48. Lehman's stock price performance during 2007 reflects the market's increasing concern about real estate and other illiquid assets while Lehman pursued its risky strategy and increased its real estate exposures. As shown in Exhibits 4 and 23, from January 3, 2007 through June 6, 2008, the trading day prior to the first corrective disclosure date alleged by certain individual plaintiffs, Lehman's stock price had declined by 58.9% as compared to the NYSE index, which increased by 4.1% over the same period.

C. After Bear Stearns' Collapse, Confidence Was Precarious, The Value Of Real Estate Assets Continued To Decline, And A Liquidity Crisis Ensued

49. In March 2008, market conditions worsened with the collapse of Bear Stearns and its subsequent government-assisted takeover by J.P. Morgan Chase. The Financial Crisis Inquiry Commission ("FCIC") concluded that "the failure of Bear Stearns was caused by its exposure to risky mortgage assets, its reliance on short-term funding, and its high leverage" and that "Bear experienced runs by repo lenders, hedge fund customers, and derivatives counterparties."[53] The collapse of Bear Stearns showed that runs on investment banks were a real risk:

> The fall of Bear Stearns in the spring of 2008 made it transparently clear that runs on investment banks could take place, because these banks were funded with large amounts of overnight repos. After Bear Stearns' failure, one had to know

[52] Testimony Concerning the Lehman Brothers Examiner's Report by Chairman Mary L. Schapiro, U.S. Securities and Exchange Commission, Before the House Financial Services Committee, April 20, 2010, pp. 4–5.

[53] Financial Crisis Inquiry Commission Report, Chapter 15, p. 291.

> that investment banks were fragile and that what to do if a run took place was a key question that had to be addressed.[54]

50. After the failure of Bear Stearns, many market participants viewed Lehman as the next large investment bank that was vulnerable to conditions in the mortgage and credit markets. The increase in perceived risk of Lehman is demonstrated by the volatility of Lehman's securities prices following Bear Stearns' collapse. Volatility is a measure of the variance in the price of financial instruments over time, and is one of the most common ways to measure the price risk of a security or asset. Exhibit 25 shows that volatility of Lehman's stock price returns and its options implied stock price volatility increased sharply around the time of Bear Stearns' failure and remained elevated thereafter. Similarly, academic studies after Lehman's bankruptcy have found that as early as April 2008 "investors were increasingly worried that Lehman Brothers may be heading into a major crisis" through analysis of measures similar to, but more complex than, volatility (e.g., risk neutral densities of option prices).[55] In response to Lehman's stock declines around the time of Bear Stearns' collapse, in March 2008 equity analysts noted that the "[r]eason is clear" that "[i]nvestors believe that this company might be the next candidate for bankruptcy in the brokerage arena," although they indicated that "[t]o assume Lehman would fail means one assumes the Fed will not or cannot honor its commitments [which] is a bad bet to make."[56]

51. In testimony before the House Financial Services Committee, SEC Chairman Schapiro noted that:

> The near collapse of Bear Stearns in March 2008, which was averted only through a government assisted sale to JPMorgan Chase, resulted in a heightened focus on Lehman. Of the four remaining CSE holding companies then supervised by the

[54] René M. Stulz and Luigi Zingales, "The Financial Crisis: An Inside View. Comments and Discussion," *Brookings Paper on Economic Activity* 2009 (Spring 2009): 64–78. *See also* Markus K. Brunnermeier, "Deciphering the Liquidity and Credit Crunch 2007-2008," *The Journal of Economic Perspectives* 23, no. 1 (Winter 2009): 89 ("Unlike Bear Stearns, Lehman Brothers had survived the fallout in March 2008, but only narrowly.").

[55] Zhirong Chen and Wai Mun Fong, "Was the Writing on the Wall? An Options Analysis of the 2008 Lehman Brothers Crisis," *Journal of Investment Management* 10, no. 4 (2012): 91–102 at 92.

[56] Punk, Ziegel & Company, "Attacking the Federal Reserve," March 18, 2008, p. 1.

> SEC, Lehman was considered to have the business model closest to Bear Stearns in that it was heavily dependent on fixed income securitization revenue.[57]

The FCIC's report noted that the risk of Lehman's failure was well known by some market participants:

> Fed Vice Chairman Donald Kohn told Bernanke that in the wake of Bear's collapse, some institutional investors believed it was a matter not of *whether* Lehman would fail, but *when*.[58]

52. In response to Bear Stearns' collapse, the Federal Reserve established the Primary Dealer Credit Facility ("PDCF"), an overnight loan facility that provided funding to primary dealers in exchange for eligible collateral, which was "designed to help restore the orderly functioning of the market and to prevent the spillover of distress to other financial firms" and help ease concerns regarding liquidity at surviving investment banks.[59] In addition, Lehman embarked on several attempts to raise equity and seek investment partners, resulting in additional equity issuances in April and June 2008.[60]

53. Conditions in mortgage and credit markets continued to deteriorate throughout the second and third quarters of 2008. Exhibit 26 shows that the value of residential and commercial mortgage-backed securities continued to decline. The declines in the value of mortgage-backed securities are tied to the continued decreases in residential and commercial real estate prices as shown in Exhibits 13, 19, and 20. The Federal Deposit Insurance Corporation took over IndyMac Corp. in July 2008 and the Federal Housing Finance Agency took over Fannie Mae and Freddie Mac on September 7, 2008.[61]

54. The heightened turmoil in mortgage and credit markets after the collapse of Bear Stearns adversely affected Lehman and its peers during 2008, as shown in Exhibit 23. The exhibit

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[57] Testimony Concerning the Lehman Brothers Examiner's Report by Chairman Mary L. Schapiro, U.S. Securities and Exchange Commission, Before the House Financial Services Committee, April 20, 2010, p. 4.

[58] Financial Crisis Inquiry Commission Report, Chapter 18, p. 324 (emphasis in original).

[59] "The Federal Reserve's Primary Dealer Credit Facility," Federal Reserve Bank of New York, *Current Issues in Economics and Finance* 15, no. 4 (August 2009): 1.

[60] "The Orderly Liquidation of Lehman Brothers Holdings Inc. under the Dodd-Frank Act," *FDIC Quarterly* 5, no. 2 (2011): 1.

[61] "UPDATE 3-U.S. bank shares plummet amid stability fears," *Dow Jones News Service*, July 14, 2008; "HEADLINE STOCKS-U.S. stocks on the move on Sept 8," *Associated Press Newswires*, September 8, 2008.

shows that the stock prices of the five investment banks declined substantially after March 2008. However, the consequences of the decline in real estate prices were greater for Lehman and Merrill Lynch, the two investment banks that did not survive through 2008, than for Morgan Stanley and Goldman Sachs, the two investment banks that did survive the crisis. Notably, the different outcomes for the four investment banks are associated with differences in the proportion of their total assets invested in residential and commercial real estate. Exhibit 27, which shows the evolution of the investment banks' relative real estate exposure between fiscal Q4 2007 and fiscal Q3 2008, reveals that Lehman and Merrill Lynch were substantially more exposed to real estate and other illiquid assets than were Goldman Sachs and Morgan Stanley.

55. In June 2008, Lehman announced a $2.8 billion loss for its fiscal Q2 2008, its first quarterly loss during the credit crisis.[62] Analysts attributed the greater-than-expected loss to Lehman's significant asset sales across residential, commercial, and leveraged loans, which Lehman sold at distressed prices given the mortgage market environment. The distressed sales also were coincident with Lehman's marking other assets to lower values according to the mark-to-market accounting rules at the time, which increased the reported write-downs.[63]

56. After the announcement of Lehman's real estate losses for fiscal Q2 2008, equity analysts continued to comment on the deterioration in the market for mortgage-backed securities and its implications for Lehman's financial condition. For example, before the end of Lehman's fiscal Q3 2008, Buckingham Research predicted that "[m]ortgage market declines…will once again be the overriding factor in 3Q08."[64] Fox-Pitt Kelton added:

> The bad news is that mkt events (not directly involving Lehman) emerged within Alt-A during 3Q08 that will require negative marks: (a) an unusual fire-sale in an SIV liquidation; (b) severe negative govt projections on Alt-A loss rates; and (c) various other small portfolio sales at depressed prices.[65]

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[62] Lehman Brothers Reports Second Quarter Results (Q2 08 Press Release), June 16, 2008.

[63] The Buckingham Research Group, "Greater Than Expected Loss, But More Than in the Stock," June 9, 2008, p. 2.

[64] The Buckingham Research Group, "3Q08 Preview & Capital Scenario Analysis," August 20, 2008, p. 2.

[65] Fox-Pitt Kelton Cochran Caronia Waller, "3Q08 Preview: Hedges Work, Loss Narrows, No New Raise," August 15, 2008, p. 1. *See also* Goldman Sachs, "Tides are not changing; more write-downs and asset sales to come," August 19, 2008 (concluding that across the board, "[a]sset values in RMBS, CMBS and leveraged loans

A few weeks later, Deutsche Bank concluded that Lehman would be forced to sell its real estate and other illiquid assets to survive:

> About a month ago, we lowered our Lehman estimates to reflect declining values in real estate assets. Since this time real estate assets have deteriorated further and at quarter end the ABX was down 10-30%, depending on vintage, and spreads on the CMBX were roughly 50% wider since the start of June across all classes, which, in turn, seem to necessitate that Lehman take more dramatic action to more fully clean up its real estate risk.… We now feel that Lehman has no choice but to offload its risky real estate assets, no matter how it is done, whether a good bank-bad bank structure (reported as possible by the New York Times on Friday but not confirmed by Lehman), other financial structure (as Lehman has often devised for its customers), a bulk sale, or even sale of the entire firm (not likely but all possibilities should be considered in our view).[66]

57. Conditions in mortgage and credit markets worsened during Lehman's fiscal Q2 2008, significantly affecting entities that maintained heavy real estate exposures. Fannie Mae and Freddie Mac were placed into conservatorship by the Federal Housing Finance Agency on September 7, 2008. Lehman's stock price was declining and investors were becoming increasingly aware of the potential for increased write-downs and losses at Lehman.[67] In response to market concerns, Lehman pre-announced its fiscal Q3 2008 earnings results early on September 10, 2008, including a $3.9 billion loss on $5.6 billion in net write-downs ($7.8 billion gross write-downs). Lehman also announced a plan to significantly reduce real estate and other illiquid asset positions and spin off its troubled commercial real estate assets into a separate entity.[68] Concurrent with these plans, Lehman attempted to find a strategic partner to assist with bailing Lehman out of its troubled financial position. Potential strategic partners included Korea Development Bank, Bank of America, Barclays Bank, and the U.S. government. Ultimately, no strategic partner was willing and/or able to acquire Lehman's assets and liabilities. Lehman filed for bankruptcy on September 15, 2008.[69]

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deteriorated" and that "Lehman Brothers will be very aggressive in reducing its overall mortgage exposure this quarter via asset sales," leading to "one of the more significant net marks this quarter, and we estimate it to be in the $2.5-3.5 bn range").

[66] Deutsche Bank, "Govt GSE Action Can Help," September 5, 2008, p. 2.

[67] *See, e.g.*, Deutsche Bank, "Govt GSE Action Can Help," September 5, 2008, p. 2.

[68] Q3 2008 Preliminary Lehman Brothers Holdings Inc. Earnings Conference Call, September 10, 2008.

[69] "The Orderly Liquidation of Lehman Brothers Holdings Inc. under the Dodd-Frank Act," *FDIC Quarterly* 5, no. 2 (2011): 2.

58. Lehman's ability to obtain financing in the tri-party repo market diminished greatly during the weeks prior to its bankruptcy filing. From early September 2008 to September 12, 2008, J.P. Morgan requested additional collateral from Lehman to cover J.P. Morgan's exposure to Lehman, including its intraday tri-party repo exposure.[70] Counterparties also reacted to the perceived increase in risk in transacting with Lehman—there was a decrease in both the number of counterparties and amount funded by tri-party repos in the days leading up to Lehman's bankruptcy. For example, over 60 lenders provided $150 billion of repo financing on September 8, 2008. On September 12, 2008, those numbers had decreased to around 40 lenders providing $95 billion of repo financing.[71,72]

59. Ben S. Bernanke, Chairman of the Federal Reserve, testified that, despite Lehman's attempts to improve its liquidity following Bear Stearns' collapse, the "panicky market conditions" in August and September 2008 led to Lehman's bankruptcy filing:

> Lehman did succeed at raising about $6 billion in capital in June 2008, took steps to improve its liquidity position in July, and was attempting to raise additional capital in the weeks leading up to its failure. However, its efforts proved inadequate. During August and early September 2008, increasingly panicky conditions in markets put Lehman and other financial firms under severe pressure. In an attempt to devise a private-sector solution for Lehman's plight, the Federal Reserve, Treasury, and SEC brought together leaders of the major financial firms in a series of meetings at the Federal Reserve Bank of New York during the weekend of September 13-15. Despite the best efforts of all involved, a solution could not be crafted, nor could an acquisition by another company be arranged. With no other option available, Lehman declared bankruptcy.[73]

60. S&P attributed the erosion in confidence of Lehman's lenders, which ultimately led to a run on Lehman that resulted in its demise, to the continued deterioration in real estate markets:

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[70] Barry Zubrow, "Written Statement of Barry Zubrow Before the Financial Crisis Inquiry Commission," September 1, 2010.

[71] Notably, the market for high-quality assets such as government and agency securities, which also were used in Repo 105s, was sufficiently liquid that Lehman continued to roll over those repos even after it had declared bankruptcy. For example, Mr. Azerad testified that Lehman was able to roll over repos collateralized with government and agency securities after Lehman declared bankruptcy because the repos were done out of a U.S. broker-dealer. Deposition of Robert Azerad, July 24, 2013, 317:6–18.

[72] Adam Copeland, Antoine Martin, and Michael Walker, "The Tri-Party Repo Market before the 2010 Reforms," Federal Reserve Bank of New York Staff Reports, no. 477 (November 2010).

[73] "Lessons from the Failure of Lehman Brothers," Statement by Ben S. Bernanke, Chairman of the Board of Governors of the Federal Reserve System before the Committee of Financial Services U.S. House of Representatives, Washington, DC, April 20, 2010, pp. 2–3.

> Lehman's Chapter 11 filing followed a precipitous decline in confidence on the part of creditors, counterparties, and clients, with severe ramifications for its ability to fund its operations. This faltering confidence is attributable, in part, to the company's large holdings of commercial real estate, and residential mortgages and mortgage-backed securities—and uncertainty regarding their value—which therefore served as a magnet for negative market sentiment in the current difficult environment.[74]

SEC Chairman Schapiro tied the loss of confidence in Lehman to the increased collateral and margin requirements by counterparties and clearing entities:

> The immediate cause of Lehman's bankruptcy filing on September 15, 2008 stemmed from a loss of confidence in the firm's continued viability resulting from concerns regarding its significant holdings of illiquid assets and questions regarding the valuation of those assets. The loss of confidence resulted in counterparties and clearing entities demanding increasing amounts of collateral and margin, such that eventually Lehman was unable to obtain routine financing from certain of its lenders and counterparties.[75]

61. I have seen no evidence or sound basis to conclude that, if there had been a disclosure of Lehman's Repo 105s, it would have avoided bankruptcy. Furthermore, and as discussed in detail in the sections that follow, there is no reliable basis to conclude that Lehman's financial reporting for Repo 105s concealed the risks that ultimately materialized at Lehman—namely, risks regarding continued real estate and credit market deterioration and Lehman's loss of liquidity. Thomas H. Cruikshank, a Lehman director in September 2008, noted the quality of the assets was a mitigating factor to any potential risk posed by Repo 105s, and stated "I think it is clear that Repo 105 is not the reason Lehman failed."[76] Chairman Bernanke also stated that

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[74] Standard & Poor's, "Lehman Bros. Holdings Downgraded To 'Selective Default'; Other Lehman Entities To 'BB-' Or 'R'," September 15, 2008.

[75] Testimony Concerning the Lehman Brothers Examiner's Report by Chairman Mary L. Schapiro, U.S. Securities and Exchange Commission, Before the House Financial Services Committee, April 20, 2010, p. 4. *See also* Statement By Thomas H. Cruikshank to House Financial Services Committee, April 20, 2010, p. 8 ("I believe that there were many factors that contributed to [Lehman's] failure – including, among other things, the firm's real estate exposure (which was exacerbated by the rules for applying mark-to-market accounting), the numerous short-sellers who were capitalizing on and fueling rumors about Lehman's troubles, the tightening of the short-term credit market, and perhaps most of all, a loss of confidence in Lehman in the financial world that led to a run on the bank. Since Lehman, like all investment banks, relied on a sizable amount of short-term refinancing for its survival, loss of confidence and a market-wide panic was a fatal combination.").

[76] Statement by Thomas H. Cruikshank to House Financial Services Committee, April 20, 2010, p. 8.

disclosure of Lehman's Repo 105s would not have altered the Fed's view of the condition of the firm because Lehman's capital and liquidity were the main concerns:

> However, knowledge of Lehman's accounting for these transactions would not have materially altered the Federal Reserve's view of the condition of the firm; the information we obtained suggested that the capital and liquidity of the firm were seriously deficient, a view that we conveyed to the company and that I believe was shared by the SEC and the Treasury Department.[77]

In addition, a recent *New York Times* article reported that federal prosecutors and the FBI "discovered that Repo 105 had nothing to do with Lehman's failure." The article also reported that the SEC later dropped its investigation into Lehman after concluding "that Repo would not have been 'material' to investors."[78]

VI. Plaintiffs' Allegations Regarding The Effect Of Lehman's Financial Reporting For Repo 105s On Its Reported Net Leverage Ratio Are Incorrect With Respect To The Risks That Materialized And Caused Plaintiffs' Losses

62. Lehman's reported net leverage ratio was not informative of the risks associated with its exposure to real estate and other illiquid assets and the ensuing crisis of confidence and loss of liquidity that resulted in losses in the value of Lehman's securities. As such, a disclosure of the effect of Lehman's financial reporting for Repo 105s on its net leverage ratio would not have revealed additional information regarding the risks that ultimately materialized and resulted in Lehman's demise. Although Lehman reported lower net leverage ratios in each fiscal quarter of 2008, its securities prices continued to decline. During this period, market participants remained focused on Lehman's exposure to real estate and other illiquid assets, its liquidity, and its counterparty risk. At most, Lehman's net leverage ratio provided information about Lehman's trends and relative position among peers, which would have been largely unaffected by a disclosure of Lehman's Repo 105s. Therefore, plaintiffs' focus on Lehman's reported net leverage ratio, and the effect of Lehman's financial reporting for Repo 105s on that ratio, is

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[77] "Lessons from the Failure of Lehman Brothers," Statement by Ben S. Bernanke, Chairman of the Board of Governors of the Federal Reserve System before the Committee of Financial Services U.S. House of Representatives, Washington, DC, April 20, 2010, p. 2.

[78] "Inside the End of the U.S. Bid to Punish Lehman Executives," *New York Times*, September 8, 2013.

misguided. The effect of Lehman's financial reporting for Repo 105s on its reported net leverage ratio did not conceal the risks that ultimately materialized and resulted in the firm's demise.

A. Disclosure Of The Effects Of Lehman's Repo 105s On Its Net Leverage Ratio Would Not Have Revealed Additional Information Regarding The Risks That Materialized

63. Although some market participants reported on Lehman's net leverage ratio, it generally was considered to be a blunt measure. Net leverage alone is not a meaningful indicator of Lehman's risk profile because using debt to fund safe, stable assets is less risky than using debt to fund riskier assets. Further, an increase in net leverage associated with a disclosure of Lehman's Repo 105s in particular and the quality and liquidity of the assets used in Repo 105s, would not have revealed to the market a meaningful change in the risks that ultimately materialized at Lehman—namely, its exposure to real estate–related and illiquid assets and the ensuing liquidity crisis stemming from their decline in value.

64. When referring to the capital structure of a firm, the term "leverage" generally refers to the extent to which the total assets of a firm exceed the amount of equity, or the degree to which the firm is financed by debt. Leverage can be measured in various ways, including the ratio of debt to equity or the ratio of assets to equity. A higher debt-to-equity or asset-to-equity ratio may indicate that equity investors are exposed to greater risk.[79] However, the degree to which higher leverage actually corresponds to higher risk depends on the extent to which the firm's assets are exposed to risk.[80] Thus, a higher leverage metric may or may not be indicative of higher risk, depending on how the assets are invested.[81]

65. One measure of leverage reported by Lehman and its peers was net leverage, which differed slightly across peers but was generally defined as net assets divided by tangible equity

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[79] Robert S. Hamada, "The effect of the firm's capital structure on the systematic risk of common stocks," *Journal of Finance* 27, no. 2 (1972): 435–452.

[80] Robert C. Merton, "On the pricing of corporate debt: The risk structure of interest rates," *Journal of Finance* 29, no. 2 (1974): 449–470.

[81] For example, a firm that has $1 billion of equity, $9 billion in debt, and invests $10 billion in highly risky projects has a debt-to-equity ratio of 9:1 and reflects high risk. Another firm that has $1 billion in equity, $9 billion in debt, and invests $10 billion in cash or treasuries would also have a debt-to-equity ratio of 9:1 but would have very little risk.

capital. Like other measures of leverage, net leverage increases with the level of net assets in the firm, regardless of whether the net assets increase or decrease the overall level of risk in the firm. Moreover, net leverage does not reflect positions in (non-asset) derivatives that might increase or decrease total risk.

66. Net leverage is not necessarily informative about the risk of complex financial institutions, because such institutions often hold large amounts of cash and cash equivalents and engage in risk management using derivative securities. Financial institutions, by the nature of their business, tend to have greater exposure to certain types of risks that are less prevalent in other types of companies. For example, various activities of financial institutions such as underwriting, clearance and settlement of trades, brokerage activities, and in particular dealing in over-the-counter ("OTC") derivative securities may expose the institution to significant counterparty default risk, which is the risk that the counterparty fails to do what it is obligated to do, for example, make a payment or execute a trade.

67. Higher net leverage can reflect higher counterparty risk if the leverage results from taking positions that materially increase the firm's counterparty risk. However, if net leverage increases as a result of asset positions that do not substantially affect default risk, or as a result of positions that decrease the firm's exposure to counterparty risk, the increase in net leverage is not indicative of increased risk.

68. [redacted] The Examiner acknowledged that the net leverage ratio was a "brutal, rudimentary measurement" which "did not capture the quality of the assets."[84] Erik Sirri, Director of the SEC's Division of Trading and Markets from 2006 to 2009, similarly acknowledged that "leverage tests are not accurate measures of financial strength [because l]everage ratios do not account for the risk or liquidity of the underlying assets or associated hedging positions" and thus "leverage ratios can overstate or understate

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[82] [redacted]. *See, e.g.*, Deposition of Bart McDade, June 20, 2013, 108:4–109:16; Deposition of Paolo Tonucci, July 2, 2013, 48:17–49:7, 117:23–118:21; Deposition of Robert Azerad, June 20, 2013, 297:2–25; Deposition of Anuraj Bismal, May 28, 2013, 43:8–45:2, 351:15–352:3; Deposition of Erin Callan, September 18, 2013, 481:18–482:24; Deposition of Christopher O'Meara, September 19, 2013, 252:14–253:23; Deposition of Ian Theo Lowitt, October 2, 2013, 377:3–21, 378:15–379:2.

[83] [redacted]

[84] Examiner's Report, Volume III, p. 805.

actual risk due to leverage."[85] Sirri further stated that leverage tests can "easily provide false comfort," as "[t]he degree of risk arising from leverage is highly dependent on the type of assets and liabilities making up the balance sheet." He also noted that "[v]iewing the balance sheets on a risk-adjusted basis to account for the relative safety of these positions would reduce the leverage ratios substantially."[86]

69. Moody's also indicated that it did not consider net leverage to be important in determining its credit rating for Lehman:

> [T]raditional leverage measures such as gross assets and net assets are not insightful measures of credit risk for securities firms…. Such measures do not fully adjust for the volatility of the assets financed, the impact of hedges, the availability of relatively stable collateralized financing for many assets, or the discipline imposed by mark-to-market accounting.[87]

> Gross (Net) Assets TCE [Tangible Common Equity] – Our Least Favorite Ratio… We think these traditional leverage ratios for the securities industry have serious shortcomings, as, for example, they do not fully adjust for the risk or liquidity of assets or the presence of hedges. We therefore do not focus closely on the industry's traditional gross or net leverage ratios in our rating committees.[88]

70. Testimony before the Subcommittee on Oversight and Investigations, Committee on Financial Services, also highlights how net leverage alone is not a sufficient proxy for risk because the type of assets being levered matters:

> Although commonly used as a leverage measure, the ratio of assets to equity captures only on-balance sheet assets and treats all assets as equally risky. Moreover, the ratio of assets to equity helps to measure the extent to which a change in total assets would affect equity but provides no information on the probability of such a change occurring. Finally, a leveraged position may not be more risky than a non-leveraged position, when other aspects of the position are

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[85] Testimony of Erik Sirri, SEC, to Subcommittee on Securities, Insurance, and Investment, March 18, 2009, p. 5.

[86] "Speech by SEC Staff: Remarks at the National Economists Club: Securities Markets and Regulatory Reform," Erik R. Sirri, April 9, 2009.

[87] Moody's Investors Services, "Global Securities Industry Methodology," December 2006, p. 6.

[88] Moody's Investors Service, "Moody's Favorite Ratios and Metrics for the Securities Industry," March 2006, p. 10.

> not equal. For example, a non-leveraged position in a highly risky asset could be more risky than a leveraged position in a low risk asset.[89]

71. Market participants understood that the risk characteristics of a firm's assets mattered when assessing the firm's risk. To the extent the market monitored and considered Lehman's net leverage, many market participants did so in the context of the type of assets that Lehman was financing with debt. As Lehman reduced its net leverage ratio and "de-levered," the market acknowledged it was doing so by reducing its exposure to real estate and other illiquid assets (or "de-risking"). For example, in April 2008 Deutsche Bank noted that "Lehman feels a need to continue to delever and derisk."[90] Buckingham Research indicated that Lehman's deleveraging would be the result of raising equity and de-risking through sales of mortgage assets:

> After the recent equity issuance moved LEH most of the way toward its deleveraging goal, the next step is to aggressively "de-risk" the balance sheet by cutting a targeted $55bn in riskier, less liquid assets (mortgages, leveraged and investment grade corporate loans, high yield inventory, and private equity) all by the end of 2Q08. While this may involve some further near-term "hits" (and why we are cutting our 2Q08 EPS estimate – see below), we believe it is bullish for the stock given that: 1) it gives us more confidence in our estimates for 2H08 and 2009 since it reduces writedown risk going forward; and 2) the sizable reduction in riskier less liquid assets should help allay balance sheet fears.[91]

72. Analysts noted that Lehman's management clearly communicated that Lehman's "deleveraging" effort was a combination of equity raising efforts and "de-risking" the balance sheet by aggressively selling risky mortgage assets. For example, an Oppenheimer analyst report in June 2008 noted:

> We note that from day one, CFO Erin Callan had been explicit and deliberate on Lehman's intention to delever the balance sheet…. Callan reiterated this point to us during our meeting with her (on April 21, 2008), saying that the company's target adjusted leverage ratio for delevering was 12x. Despite the fact that recent

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[89] "Financial Crisis Highlights Need to Improve Oversight of Leverage at Financial Institutions and across System," Statement of Orice Williams Brown, Director Financial Markets and Community Investment, Testimony Before the Subcommittee on Oversight and Investigations, Committee on Financial Services, House of Representatives, United States Government Accountability Office, May 6, 2010, p. 4.

[90] Deutsche Bank, "Lehman Brothers Holding Meeting with CFO," April 9, 2008, p. 2.

[91] The Buckingham Research Group, "Lehman Brothers (LEH) Meeting with CFO: Short-Term P/L Impact from 'De-Risking', But Positive for Valuation & LT Fundamentals," April 14, 2008, p. 2.

> capital raises at the time had brought the company closer to the target leverage ratio, Callan said the company would continue to focus on de-risking by selling illiquid assets. In fact, management has set specific levels that exposures to illiquid assets should be at by the end of 2Q08.[92]

73. In June 2008, Morgan Stanley acknowledged Lehman's "rapid decline in leverage" in fiscal Q2 2008 but stated that Lehman was "slow to derisk." Morgan Stanley indicated that "despite the aggressive asset sales in 2Q08, LEH's gross assets are only back to pre-crisis 2Q07 levels" and that "rather than unload assets at a loss…management not[ed] on the 1Q08 conference call that they were actually adding certain mortgage assets at the end of 1Q08."[93] In August 2008, UBS referred to Lehman's asset sales activity as "de-leveraging/de-risking."[94]

B. Lower Net Leverage Did Not Reduce Concern About Lehman's Real Estate And Illiquid Asset Risk, Counterparty Confidence, And Liquidity Risk, Especially After Bear Stearns' Failure

74. Even though market participants acknowledged that Lehman was reducing its net leverage ratio, this did not eliminate or dampen concerns that market participants had about the risks that ultimately materialized at Lehman. Market participants continued to monitor Lehman's exposure to real estate–related and other illiquid assets. They remained concerned about the risks those assets presented and Lehman's ability to unwind those positions without facing substantial write-downs, including the sufficiency of Lehman's capital base to withstand those write-downs. Increasingly, this became the case after the failure of Bear Stearns and as conditions in the real estate and credit markets continued to deteriorate.

75. For example, after Lehman filed its fiscal 2007 10-K on January 29, 2008, some equity analysts expressed concern regarding the quality of Lehman's assets and feared potential declines in the value of those assets:

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[92] Oppenheimer, "LEH Pre-announces EPS Loss of $5.14 and Capital Raise of $6B," June 10, 2008, p. 2. [redacted]. Note that, as shown in Exhibit 28, Lehman did not lower its net leverage ratio from fiscal Q1 2008 to fiscal Q2 2008 by increasing its usage of Repo 105s, since its level of Repo 105s increased only slightly during fiscal Q2 2008 (from $49.1 billion to $50.4 billion).

[93] Morgan Stanley, "Lehman Brothers Bruised, Not Broken — and Poised for Profitability," June 30, 2008, p. 4.

[94] UBS Investment Research, "Asset Mgmt/Trust/E-broker Takeaways," August 4, 2008, p. 6.

> The 10K also reminded us that risks still remain. Level 3 assets increased from $32.4B at the end of 3Q07 to $38.9B at year-end, including mortgage and asset backed positions which increased from $23.4B to $25.2B.[95]
>
> With respect to mortgage…there has been concern with respect to Lehman's $90Bn residential and commercial exposures.[96]
>
> Events that may lead Lehman to underperform our rating and its peer group include (1) a sharp deterioration in the mortgage market, (2) Lehman's inability to maintain its market share gains in investment banking, (3) the firm's inability to grow its equity trading volumes in line with the market or its peers, or (4) significant market underperformance at its investment management arm.[97]

76. After Lehman's announcement of preliminary fiscal Q2 2008 earnings on June 9, 2008, a Bank of America equity analyst report noted that Lehman succeeded in reducing both leverage and troubled asset classes, but continued to focus on the risk associated with Lehman's remaining exposure to struggling and illiquid assets. The report questioned whether Lehman had sufficient capital to withstand more write-downs:

> While LEH reduced gross leverage from 32x to 25x, increased their liquidity pool from $34B to $45B, and drove reductions across most troubled asset classes (and reduced total assets by $130B or 17%), we await more details on total remaining troubled assets in aggregate as well as a L-III or illiquid asset update to help answer the question of whether $6B in incremental capital raise is sufficient.[98]

77. Additionally, on July 23, 2008, a UBS equity analyst report expressed concern over additional write-downs on problem assets, especially given the stress in the credit, economic, and capital markets:

> In our view, the main issues at this point are Lehman's remaining "problem" asset exposures, the related fears over Lehman's client franchise (which get amplified by the drop & volatility in its stock), the less than favorable macro backdrop, and lingering concerns over the future structure of the industry (and where Lehman fits in)…. As great as Lehman's track record is, the company got caught owning

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[95] Deutsche Bank, "Lehman Brothers Holding Raised Dividend and Continues Buyback," January 29, 2008, p. 1.
[96] Credit Suisse, "Lehman Brothers Credit Suisse Fin'l Services Forum Highlights," February 6, 2008, p. 2.
[97] J.P. Morgan, "Lehman Brothers Expecting Another Qtr of Bad News; Lowering Ests," March 10, 2008, p. 2.
[98] Bank of America Equity Research Report, Lehman Brothers Holdings Inc., June 9, 2008, at p. 1 (LBEXDOCID 015863).

> too many illiquid assets relative to the size of its equity base when the music stopped…. Given our overall negative view on the credit, economic and capital markets backdrop, we do think that Lehman's remaining "problem" exposures ($83 billion across residential and commercial mortgage, real estate, other ABS, and leveraged loans) will continue to weigh on the shares and likely lead to further write-downs as the credit crisis drags on.[99]

78. Even though Lehman reported sharply lower net leverage for fiscal Q2 2008, S&P, Moody's, and Fitch downgraded Lehman during the first half of fiscal Q3 2008. The ratings agencies cited continued weaknesses in the investment banking business, concerns about Lehman's exposure to real estate assets, and other factors unrelated to Lehman's net leverage ratio.[100] Therefore, notwithstanding the decline in Lehman's net leverage ratio, ratings agencies remained concerned about Lehman's exposure to risky assets and the potential for substantial write-downs in the future.

79. According to the FCIC, in a report released after Lehman's bankruptcy, the Fed and SEC also were focused on Lehman's solvency and liquidity risk associated with potential write-downs after the run on Bear Stearns:

> After the Demise of Bear Stearns in March 2008…the Fed and SEC asked: Did Lehman have enough capital—real capital, after possible write-downs? And did it have sufficient liquidity—cash—to withstand the kind of run that had taken down Bear Stearns? Solvency and liquidity were essential and related.[101]

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[99] UBS Investment Research, "Lehman Has Options, Albeit Costly Ones," July 23, 2008, pp. 2, 4.

[100] Moody's Investors Service, "Moody's lowers Lehman Brothers rating to A2, outlook negative," Global Credit Research Rating Action, July 17, 2008; Fitch Ratings, "Fitch Downgrades Lehman Brothers' L-T & S-T IDRs to 'A+/F1'; Outlook Negative," June 9, 2008; Standard and Poor's, "Review of Investment Bank Sector Sparks Mostly Negative Ratings Actions," June 2, 2008. Although S&P's ratings action occurred prior to Lehman's reported lower leverage for fiscal Q2 2008, S&P affirmed on June 9, 2008 that its ratings for Lehman "will not be affected by the firm's announcement of an expected $2.8 billion net loss for second-quarter 2008. Our recent downgrade of Lehman integrated our expectation that the firm's second-quarter performance would meaningfully deteriorate. The loss primarily reflects negative valuation adjustments and hedging losses in the firm's fixed-income business." Standard & Poor's, "Lehman Brothers Holdings Inc. Rating Not Affected By Quarterly Loss," June 9, 2008, InreLehman-SP 0000379.

[101] Financial Crisis Inquiry Commission Report, Chapter 18, pp. 325–326.

C. Disclosure Of Lehman's Repo 105s Would Not Have Altered Lehman's Net Leverage Ratio Trends And Position Relative To Its Peers

80. As discussed above, Lehman's net leverage ratio in and of itself was not a meaningful measure of its risk. More importantly, Lehman's reported net leverage ratio did not conceal the risk associated with real estate–related and other illiquid assets and liquidity risks that ultimately materialized and caused losses for plaintiffs. Although leverage ratios provide limited information regarding the extent of a financial institution's risk, they are easy to calculate and can provide a basis for analyzing high-level trends and comparisons among firms. Disclosure of Lehman's Repo 105s would not have altered the market's assessment of Lehman's net leverage ratio trends or its relative leverage position compared to its peers.

81. Net leverage ratios were used by some market participants to measure, at a high level, general trends in the raw amount of asset exposure both individually and relative to peers.[102] Equity analysts commented on the general decline in Lehman's leverage and the consistency of it with its peers. For example, in July 2008 Fox-Pitt Kelton discussed how leverage ratios declined sequentially for Lehman, Goldman Sachs, and Morgan Stanley,[103] and concluded that Lehman's leverage ratios were in-line with peers.[104] Bank of America provided an analysis of investment banks' relative leverage ratios and trends.[105] Citi, which believed that capital ratios "are a more effective way of evaluating firm risk and capital adequacy (vs. leverage ratios),"[106] noted that Lehman, Goldman Sachs, and Morgan Stanley all lowered leverage ratios in fiscal Q2 2008 and that "Lehman delevered the most vs. peers."[107]

82. Lehman's CFO, Ian Lowitt, explained the role of net leverage in a June 16, 2008 investor conference call:

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[102] *See* Section VIII.B.1 [redacted]

[103] Fox-Pitt Kelton Cochran Caronia Waller, "Some Highlights from 2Q08 10Q," July 11, 2008, p. 1.

[104] Fox-Pitt Kelton Cochran Caronia Waller, "Going Private May Be the Best Course of Action," July 14, 2008, p. 3.

[105] Bank of America, "Looking For a Better Balance (Sheet)?; A Look at I-Bank De-Leveraging Trends," August 11, 2008.

[106] *See* Section VIII.C.1 [redacted].

[107] Citi, "Highlighting Several New & Incremental Disclosures (GS, LEH, MS)," July 14, 2008, pp. 1–2.

> Leverage is one metric which the market does look at. It's sort of a high level view of how much risk you are taking relative to your equity. Obviously there are much more precise metrics but those often are different across firms and they are difficult for folks to make real comparisons around. But certainly we think that the CSC equity calculations are going to provide another way for the market to get a sense of how much equity do different firms have relative to their risks. And while we would argue that those are probably the more relevant metrics because they do go into understanding what are the hedges against positions, and to your point reflect derivatives in a different way, those are ones that the comparison across firms is difficult. So I think leverage is always going to be important. People are going to look at it. We are going to operate conservatively but as you say, there will be other metrics and we continue to be conservative on those metrics as well.[108]

83. Exhibit 28 compares Lehman's net leverage ratio to its peers using each company's own net or adjusted leverage methodology, including a calculation of Lehman's net leverage ratio adjusted for the assets used in Repo 105s. The chart indicates that including the assets used in Repo 105s would have caused Lehman's net leverage ratio to remain within the bounds of its peers. For example, if there had been a disclosure of Lehman's Repo 105s, Lehman still would have reported the lowest net leverage ratio among its peer group in fiscal Q2 2008 and fiscal Q3 2008. Furthermore, Lehman completed a $6 billion equity offering on June 9, 2008, nine days after its fiscal Q2 2008 quarter end.[109] Market participants evaluating Lehman's financial ratios adjusted for this equity offering.[110] Adjusting Lehman's fiscal Q2 2008 net leverage ratio for this capital raise as well as the Repo 105 assets results in Lehman's net leverage ratio being the lowest for fiscal Q2 2008 by an even greater degree.[111]

[108] Q2 2008 Lehman Brothers Holdings Inc. Earnings Conference Call, June 16, 2008. [redacted]

[109] None of Lehman's peers issued equity shortly after fiscal Q2 2008 quarter end.

[110] *See, e.g.*, Citi, "Analysis of Broker 10-Qs: Highlighting Several New & Incremental Disclosures (GS, LEH, MS)," July 14, 2008, p. 3 ("LEH ratio of Level 3 to equity shown proforma for $6b capital raise in 3Q08.").

[111] To ensure that differences in investment banks' methodologies for calculating net leverage do not substantially alter the conclusion that Lehman's net leverage ratio remained in-line with its peers, I also compared Lehman's net leverage ratio to its peers by recalculating net leverage for Lehman's peers using Lehman's methodology, as shown in Exhibit 29. This also shows that Lehman's net leverage ratio would not have deviated from the peer group even if the net leverage ratio was adjusted to include the assets used in Repo 105s. Moreover, when also considering Lehman's June 9, 2008 equity raise, Lehman would have reported the lowest net leverage ratio even if the Repo 105 assets were included in the calculation. This is not necessarily a more appropriate method for comparing net leverage across peers.

84. In addition to Lehman's net leverage ratio remaining in-line with peers, the trends in Lehman's net leverage ratio, measured as the change in the ratio, would have been largely unaffected if the assets used in Repo 105s had been included in the ratio, as shown in Exhibit 30. For example, for fiscal Q2 2008, Lehman would have reported the same 3.4% decline in its net leverage ratio. Consistent with this finding and as discussed in Section V.C, the SEC team investigating Lehman "concluded that Repo 105 would not have been 'material' to investors because the firm's leverage ratio was trending downward regardless of Repo 105."[112]

VII. Lehman's Financial Reporting For Repo 105s Did Not Conceal The Risks That Ultimately Materialized And Led To Lehman's Failure

85. Plaintiffs' losses were caused by the materialization of risks—the continued deterioration of real estate and credit markets, loss of counterparty confidence, and the ensuing liquidity crisis—that were distinct from, and not concealed from market participants by, Lehman's financial reporting for Repo 105s.

A. Lehman's Financial Reporting For Repo 105s Did Not Conceal The Risk Of A Continued Deterioration In Real Estate And Credit Markets Or The Risk Of Additional Asset Write-Downs

86. As discussed above, Lehman failed because of the materialization of risks regarding continued real estate and credit market deterioration—risks that were known to market participants by at least 2007. The market was aware of Lehman's exposure to real estate–related and other illiquid assets, and the extent of Lehman's exposure was not concealed by its financial reporting for Repo 105s. Moreover, the market was aware of the worsening conditions in real estate and credit markets, and the resultant risk of future write-downs. Disclosure of Lehman's Repo 105s would not have altered the market's assessment of the risk of Lehman's illiquid assets, a risk that materialized and was a cause of plaintiffs' losses.

[112] "Inside the End of the U.S. Bid to Punish Lehman Executives," *New York Times*, September 8, 2013.

1. The Market Was Aware Of Lehman's Exposure To Real Estate And Other Illiquid Assets, Which Was Not Obscured By Lehman's Financial Reporting For Repo 105s

87. In 2006, prior to the mortgage market crisis that began in 2007, Lehman disclosed information regarding its composition of assets in general and its real estate exposure in particular. It disclosed its origination, securitization, and sales activity and provided the total fair value of its exposure to real estate as two categories of its Financial Instruments and Other Inventory Positions Owned: (1) mortgages and mortgage-backed positions and (2) real estate held for sale.[113]

88. Beginning with fiscal Q1 2007, Lehman adopted new accounting standards and enhanced its disclosures. In September 2006, the Financial Accounting Standards Board ("FASB") issued its Statement of Financial Accounting Standards No. 157 ("SFAS 157"), which established a framework for measuring fair value according to GAAP and expanded disclosure requirements. Most notably, SFAS 157 required firms to disclose their asset exposures by category: Level I, Level II, and Level III. Level III assets reflected assets most difficult to value, defined as having unobservable valuation inputs, including lack of readily obtainable market prices.[114] Although SFAS 157 was not required to be adopted by Lehman until fiscal year 2008,[115] Lehman chose to adopt it by the first quarter of 2007.[116] Lehman's SFAS 157 disclosure generally gave two additional pieces of information regarding Lehman's asset exposures: (1) a breakdown of Lehman's exposures by fair value category, providing information such as the portion of real estate exposures classified as Levels I, II, and III, and (2) a summary of the changes in Lehman's exposures over the quarter (including purchases, sales, transfers, and both realized and unrealized losses).[117]

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[113] *See, e.g.*, Lehman Brothers Holdings Inc. Form 10-K for the Fiscal Year Ended November 30, 2006, filed February 13, 2007 ("Lehman fiscal 2006 10-K"), p. 90.

[114] SFAS 157.

[115] Lehman fiscal 2006 10-K, p. 68.

[116] Lehman Brothers Holdings Inc. Form 10-Q for the Quarterly Period Ended February 28, 2007, filed April 9, 2007 ("Lehman fiscal Q1 2007 10-Q"), p. 14.

[117] *See, e.g.*, Lehman fiscal Q1 2007 10-Q, p. 18.

89. Equity analysts paid close attention to the increased information provided by Lehman's SFAS 157 disclosures, especially the amount and composition of Lehman's Level III assets.[118] SFAS 157 fair value disclosures provide useful information regarding the portion of assets that are difficult to value. However, a limitation of the disclosure is that assets that are difficult to value are not necessarily of poor quality. Equity analysts acknowledged this deficiency in the Level III asset disclosure and, as mortgage markets continued to deteriorate, they were keenly focused specifically on Lehman's exposure to real estate–related and other illiquid assets and on gaining additional granular information. For example, a UBS analyst report noted in November 2007:

> A lot of focus has been placed on Level 3 assets at the brokers and banks as these buckets have grown significantly given the lack of liquidity in the structured credit market (Lehman's Level 3 assets represented 160% of the firm's equity base at the end of 3Q), and we think Lehman did a good job giving some color on what is included in their Level 3 bucket and why it's not all "bad" stuff.[119]

90. By fiscal year-end 2007, Lehman had significantly expanded its real estate disclosure to include a breakdown of its residential and commercial asset exposure by type (whole loans, securities, servicing, and other) and a table providing Lehman's U.S. residential subprime mortgage exposure by type (whole loans, retained interests in securitizations, and other).[120] Equity analysts highlighted that Lehman's "new disclosure details the composition of Lehman's residential, RMBS and commercial real estate exposures"[121] and focused on the size of Lehman's real estate exposures, both nominally and relative to peers.[122]

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[118] *See, e.g.*, Wachovia, "LEH: 10-Q Bits - Has Christmas Come In July? LEH Is Inexpensive," July 10, 2007, p. 1 ("New Level 3 Disclosure Indicated Marks Taken in Q2. According to the 10-Q, LEF took an unrealized loss of $459 million in Q2 on LEVEL #3 MBS securities.").

[119] UBS Investment Research. "Effectively Controlling What They Can," November 13, 2007, p. 3.

[120] Lehman fiscal 2007 10-K, pp. 104–105.

[121] Credit Suisse, "Credit Suisse Fin'l Services Forum Highlights," February 6, 2008, p. 1.

[122] *See, e.g.*, Buckingham Research comparison of Lehman's commercial real estate exposure to peer banks, noting that "LEH has by far the largest exposure among the investment banks to commercial real estate – roughly double the next largest competitor." The Buckingham Research Group, "Lowering 1Q08 EPS on CMBS Weakness in February," February 27, 2008, p. 2. *See also* Bernstein Research report that noted, "[B]ased on available disclosures, Lehman Brothers is the most exposed to Commercial Mortgage Backed Securities as a % of tangible equity. Lehman has $39.5 billion of this gross exposure and Morgan Stanley has $31.5 billion." Bernstein Research, "US Securities Industry: Money Market Disruptions – Symptoms of Broader Industry Liquidity Issues," February 28, 2008, p. 16. *See also* UBS report that noted, "[A]s good as Lehman has been at managing its exposures, we still have some concerns about the shear [*sic*] size and composition of the $31.8 billion of residential mortgage position

91. The market's focus on Lehman's liquidity and exposure to risky, illiquid assets heightened after Bear Stearns' collapse and takeover by J.P. Morgan Chase on March 16, 2008, as discussed above. For example, a J.P. Morgan analyst report on March 19, 2008 noted:

> [G]iven the events of the last week the announcements should be positive for spreads. We will focus more on liquidity and the marked to market write downs for high risk assets since that is our paramount concern.[123]

92. In response to increasing market concerns, Lehman further enhanced its disclosures regarding high-risk assets. In its March 18, 2008 fiscal Q1 2008 earnings press release, Lehman provided a granular breakdown of residential and commercial mortgages by type, including the gross and net write-downs related to those balances. It also provided a detailed breakdown of its acquisition finance facilities, an analysis of its residential mortgage inventory by category (prime, Alt-A, subprime, etc.), an analysis of its commercial mortgage inventory by geographic region, and enhanced discussions regarding these exposures.[124] CFO Erin Callan also provided a lengthy discussion of Lehman's exposures, real estate activity, and write-downs in Lehman's earnings conference call on March 18, 2008. She also responded to analyst questions regarding the composition of Lehman's residential portfolio, its hedging strategy for Alt-A assets, and changes in Level III assets.[125] Equity analysts paid close attention to these enhanced disclosures. For example, a Buckingham Research analyst report noted that "LEH also gave a lot of detail around its mortgage positions."[126] A Punk, Ziegel & Company analyst report commented:

> There was a very detailed discussion of the company's assets and a table provided to demonstrate that the write downs being taken were manageable. Very

($14.8 billion of mostly Alt-A) and $31 billion of commercial mortgage position (Lehman sold $5 billion worth post the end of the quarter) on their books at a time when it seems that the illiquidity and deleveraging trends will continue in the face of a weakening economy." UBS Investment Research, "A Sign of Relief," March 19, 2008, p. 3.

[123] J.P. Morgan Credit Research, "Goldman Sachs and Lehman Brothers: Weathering the Storm," March 19, 2008, p. 1.

[124] "Lehman Brothers Reports First Quarter Results," Company Press Release, March 18, 2008, pp. 13–14.

[125] Q1 2008 Lehman Brothers Holdings Inc. Earnings Conference Call, March 18, 2008. [redacted]

[126] The Buckingham Research Group, "1Q08: Underlying Earnings Power Remains Intact," March 19, 2008, p. 3.

> important in this discussion was the explanation of the various actions that the firm took through effective risk management to lower the actual loss.[127]

93. As the real estate market continued to weaken in 2008, the market remained focused on Lehman's exposure to real estate–related and other illiquid assets. For example, in April 2008 Deutsche Bank emphasized three areas of equity risk for Lehman: commercial mortgages (primarily driving Deutsche Bank's estimated future write-downs), residential mortgages, and leveraged loans.[128] Lehman subsequently disclosed additional information regarding its exposure to real estate. On June 9, 2008, Lehman released preliminary fiscal Q2 2008 earnings results, with a breakdown of its fiscal Q2 2008 write-downs. On June 16, 2008, Lehman issued a press release announcing earnings results, which included a separate exhibit with a detailed analysis of its write-downs, residential and commercial exposures, and acquisition finance facilities exposures.[129] These schedules provided granular detail on the amount, geographic region, type, quality, and losses for each of Lehman's high-risk exposures. Lehman also provided additional detail on its high-risk asset exposures in its fiscal Q2 2008 earnings conference call, including estimated figures of cumulative mark-to-market losses taken on select asset positions.[130] Exhibits 31.a and 31.b contain a summary of Lehman's increasing disclosures from 2006 to fiscal Q2 2008. Equity analysts highlighted the significantly enhanced disclosures. For example, Buckingham Research identified "much greater disclosure around mortgage positions."[131] UBS commended Lehman for providing "much wanted incremental disclosure on Lehman's illiquid asset exposures and marks."[132] Merrill Lynch noted:

> [T]he main incremental news today therefore was the firm's much-enhanced disclosure of its positions, both in terms of a series of spreadsheets detailing positions and added color on the lengthy conference call in which "ball-park" mark levels were provided on some significant asset classes.[133]

[127] Punk Ziegel & Company, "Guess What? It's a Real Company," March 19, 2008, p. 1.
[128] Deutsche Bank, "Meeting with the CFO," April 9, 2008, p. 3.
[129] Lehman 8-K, June 16, 2008, Ex. 99-2.
[130] Q2 2008 Lehman Brothers Holdings Inc. Earnings Conference Call, June 16, 2008.
[131] The Buckingham Research Group, "2Q08: Risks Are Coming Down; Reaffirm S. Buy," June 17, 2008, p. 1.
[132] UBS Investment Research, "A Few Steps Toward Stability," June 17, 2008, p. 1.
[133] Merrill Lynch, "Cutting ests again on lower leverage," June 17, 2008, p. 3.

94. Importantly, there is no reliable basis to conclude that disclosure of Lehman's Repo 105s would have caused market participants to change their opinions about the extent and riskiness of Lehman's exposure to real estate–related and other illiquid assets because Lehman's Repo 105s did not remove these types of assets from the balance sheet. Repo 105s were backed primarily by U.S. Treasuries, agency securities, and other creditworthy sovereign debt.[134]

2. Market Participants Were Aware Of The Risk Of Future Write-Downs Of Lehman's Real Estate–Related And Illiquid Assets, Which Was Not Obscured By Lehman's Financial Reporting For Repo 105s

95. Market participants were concerned about Lehman's exposure to real estate–related and other illiquid assets and potential future write-downs.[135] Many analysts correctly forecasted or over-forecasted Lehman's net write-downs for each quarter as a result of having a substantial amount of information about Lehman's asset exposures. Lehman's financial reporting for Repo 105s did not conceal the amount of its real estate–related and other illiquid assets, as discussed in Section VII.A.1, and therefore, could not have concealed the amount of write-downs required on those assets. I find no reliable basis to conclude that disclosure of Lehman's Repo 105s would have caused market participants to forecast greater write-downs. Therefore, Lehman's financial reporting for Repo 105s did not conceal the risks regarding continued deterioration in real estate and credit markets that ultimately materialized and caused losses in Lehman's securities.

96. Focus on the impact of the deteriorating mortgage and credit market on Lehman's financial health increased following Lehman's first announcement of significant write-downs for fiscal Q3 2007. On September 18, 2007, Lehman announced "substantial valuation reductions, most significantly on leveraged loan commitments and residential mortgage-related positions," resulting in $700 million in net losses (which were partially offset by "large valuation gains on economic hedges and other liabilities").[136] Some analysts noted positively

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[134] A categorization of the Repo 105 assets by type, investment rating, and SFAS 157 fair value level is provided for the fiscal quarters ending Q4 2007 to Q3 2008. See Duff & Phelps' October 21, 2009 Repo 105 Usage – by FAS 157 Fair Value Level, incorporated by reference into Appendix 17 of Examiner's Report.

[135] *See* Section VII.C demonstrating that individual action plaintiffs were aware of Lehman's real estate–related and other illiquid asset exposure and recognized the risk of additional write-downs.

[136] "Lehman Brothers Reports Third Quarter Results," Lehman Brothers Press Release, September 18, 2007, p. 2.

that Lehman's write-downs taken in fiscal Q3 2007 appeared "sufficiently aggressive" and "helped allay fears that LEH and other brokers were not taking adequate 'marks' on inventory."[137] However, equity analysts recognized that Lehman continued to maintain significant exposure to risky mortgage and leverage loan assets and that future write-downs could occur, especially if markets continued to weaken. UBS noted, for example, that further write-downs could occur with "further weakening in the business."[138] Punk, Ziegel & Company indicated that further write-downs would occur if mortgage and private equity markets remained troubled:

> It is unlikely that there will be any meaningful recovery in the writedowns if the mortgage markets remain troubled and the deals on the books continue to be restructured. In fact, it is more likely that there will be write-offs of Level 3 assets if the private equity markets remain under stress due to a need to pay more for funds and an inability to bring issues to market. It will take some time for assets to regain prior values.[139]

97. During fiscal Q4 2007, market participants acknowledged that mortgage and credit markets continued to decline, indicating increased losses for Lehman. On October 31, 2007, Punk, Ziegel & Company identified that "[n]egative pressures are coming from the contraction of the mortgage markets, and the reluctance of investors to purchase many types of asset-backed products" and that "the decline in the CDO and CLO markets has a negative impact."[140] At the end of November 2007, CIBC World Markets cut Lehman's fiscal Q4 2007 EPS estimate by 12%, citing disruptions in credit and mortgage markets during fiscal Q4 2007 and indicating that credit market stability would occur only after banks reduced their exposure to risky assets:

> Due to the past three weeks of intense credit market disruption, we are lowering our 4Q EPS estimate from $1.73 to $1.52, basically flat with the third quarter. We are also lowering our 2008 estimate from $8.50 to $7.95 as we anticipate a more protracted environment of credit turmoil.

[137] The Buckingham Research Group, "Research Note for September 19, 2007," September 19, 2007, pp. 1–2.
[138] UBS Investment Research, "Lehman Brothers – Not a Bad Trough (Assuming it is One)," September 19, 2007, p. 4.
[139] Punk, Ziegel & Company, "Lehman Brothers (NYSE: LEH)," September 19, 2007, p. 2.
[140] Punk, Ziegel & Company, "Lehman Brothers (NYSE: LEH)," October 31, 2007, p. 1.

> The ABX Indices for mortgage insurance derivatives on AAA and BBB- loans made in the first half of 2006 dropped 5% and 32% for the month of November, respectively. The declines in the ABX indices imply continued deterioration in the subprime and mortgage related securities.
>
> We believe true credit market stability will only be reached when sellers ultimately clear assets, "cleansing" their balance sheets, so a true bid returns to the market. We anticipate that timing to be nearer to the second half of 2008 than the first.[141]

98. After the turmoil in mortgage markets during fiscal Q4 2007, Lehman announced another significant net write-down of $830 million "due to the very challenging markets experienced during the period."[142] As forecasted, equity analysts attributed Lehman's write-downs to "the widening spreads across nearly all credit markets."[143] Despite the second consecutive quarter of large reported write-downs, analysts continued to focus on the extent of Lehman's exposure to real estate–related and other illiquid assets and were aware that future write-downs could occur if markets continued to deteriorate. Punk, Ziegel & Company indicated that Lehman, in its conference call with investors, "spent a great deal of time explaining its rationale for writing down certain of its assets" and that Lehman indicated there may be future write-downs. It further stated that "[i]nvestors are well aware of the fact that there have been write downs, and that there may be more write downs."[144] J.P. Morgan commented that it "fear[s] that weaker market conditions in 2008 will reduce the number of profitable trading days" and that the "markets have not indicated that the credit and mortgage markets are getting healthier."[145] UBS expressed its concerns as follows:

> We also are concerned about the firm's heavy exposure to commercial real estate, which we believe is largely unhedged and may drive material losses in future quarters if current trends persist. Meanwhile, LEH's risk-taking exposure continues to increase, creating further potential for large swings in P&L going forward. As a result, we believe LEH remains vulnerable to continued market

[141] CIBC World Markets, "Lehman Brothers Holdings Inc.," November 28, 2007, p. 1.

[142] "Lehman Brothers Reports Record Net Revenues, Net Income and Earnings Per Share for Fiscal 2007," Lehman Press Release, December 13, 2007, p. 2.

[143] The Buckingham Research Group, "Lehman Brothers (LEH) Strong Buy," December 14, 2007, p. 3.

[144] Punk, Ziegel & Company, "Lehman Brothers (NYSE: LEH)," December 14, 2007, p. 1.

[145] J.P. Morgan Equity Research, "Lehman Brothers: Lehman Delivers, but Earnings Quality Remains Key Concern," December 14, 2007, p. 2.

> instability, but lacks the capital base of its larger peers to sustain large impairments.[146]

Citi also noted that Lehman's outlook had substantially changed:

> **Reality of 2008 sets in as mortgage market continues to deflate.** Management made an about-face in its outlook. Last quarter, management indicated that "…the worst of the credit correction is behind us" but now it's indicating that "…asset repricing to the downside will continue for the better part of the first two quarters next year…and we are not calling bottom."[147]

99. Conditions in mortgage markets continued to worsen during fiscal Q1 2008. Market participants acknowledged this, especially as the decline in real estate prices spread to commercial real estate and caused declines in the value of commercial mortgages. For example, in February 2008, Bank of America noted that the ABX index was down 25% since November 2007, the CMBX index down 4.2%, and the LCDX index down 5%. Bank of America concluded that "one area which would seem to be an area of concern is for CMBS, where firm exposures are generally high (and have been growing as we suspect as it has become more difficult to move this paper), and spreads have started to widen significantly and price of the CMBX index has declined to levels seen in the middle of last year."[148] Similarly, Buckingham Research noted that "February [2008] has been another challenging month for mortgage-related asset valuations, particularly commercial real estate" and that "LEH has by far the largest exposure among the investment banks to commercial real estate – roughly double the next largest competitor…. Consequently, we expect write-downs related to commercial real estate and, to a lesser extent, RMBS to have increased meaningfully in February."[149] Credit Suisse and Deutsche Bank also lowered fiscal Q1 2008 estimates by the end of February 2008, citing "incremental markdowns against leveraged loan, commercial and residential real estate

[146] UBS Fixed Income Research, "Lehman Brothers Holdings, Inc.: A Hedge Above the Rest?," December 13, 2007, p. 1.
[147] Citi, "Lehman Brothers Holdings Inc (LEH)," December 13, 2007, p. 1 (emphasis in original).
[148] Bank of America, "Mark-Downs Look to Be Worse Than Expected, Lowering Numbers," February 12, 2008, pp. 9–10.
[149] The Buckingham Research Group, "Lehman Brothers (LEH) Strong Buy," February 27, 2008, p. 2.

exposures"[150] and "greater than expected mark-to-market losses."[151] Before Lehman reported its earnings, Oppenheimer summarized the environment:

> As the end of the brokers' fiscal first quarter drew to a close last Friday, the capital markets environment can now officially be called rotten for first quarter earnings…
>
> Making matters worse of a moribund environment is the capital hits that will result from declines in the leverage lending markets, the CMBS market, and the global equities markets.[152]

100. In fiscal Q1 2008, Lehman recorded its largest asset write-down at the time for the third consecutive quarter. Lehman announced a net write-down of $1.8 billion, citing "continued deterioration in the broader credit markets, in particular residential mortgages, commercial mortgages and acquisition finance."[153] Equity analysts responded to this announcement with a maintained focus on Lehman's large exposure to risky assets and the potential for future write-downs if markets continued to deteriorate, despite Lehman's growing cumulative write-downs. Wachovia commented that residential and commercial "exposures [were] still high."[154] J.P. Morgan acknowledged that write-downs were in-line with expectations but it "expect[ed] continued deterioration in mortgage book."[155] UBS cautioned that investors should not "get too excited just yet" because write-downs "may continue for a while given Lehman's extensive exposures, a continued weak housing market and still very difficult operating environment."[156] Deutsche Bank also forecasted an additional $2.3 billion write-down in fiscal Q2 2008 "given remaining exposure and current market pricing."[157] Buckingham Research commented that "we

[150] Credit Suisse, "Lehman Brothers – Weaker Markets; Reducing Estimates," February 29, 2008, p. 1.

[151] Deutsche Bank, "Lehman Brothers Holding – Lowering Estimates and Target," February 29, 2008, p. 1.

[152] Oppenheimer, "Industry Update," March 3, 2008, p. 1. Oppenheimer listed Lehman as the only firm among its peers rated as "Outperform," but clarified that its "only Outperform rating is on Lehman, only because Lehman's stock has so vastly underperformed its peers for the past two years in a row and [it] believes expectations are so low."

[153] "Lehman Brothers Reports First Quarter Results," Lehman Brothers Press Release, March 18, 2008.

[154] Wachovia, "Lehman Brothers Holdings Inc.," March 19, 2008, p. 2.

[155] J.P. Morgan, "Expecting Another Qtr of Bad News; Lowering Ests - Corrected Note supersedes any previous versions," March 19, 2008, p. 1.

[156] UBS Investment Research, "Lehman Brothers – A Sign of Relief," March 19, 2008, p. 2.

[157] Deutsche Bank, "Lehman Brothers Holding – Buy," March 18, 2008.

are not saying we know when this correction in the credit markets will end, so we certainly cannot rule out further writedowns in LEH's mortgage book going forward."[158]

101. During fiscal Q2 2008, equity analysts continued to forecast increased write-downs "based on continued weakness in mortgage-related and other structured products."[159] However, as compared with prior quarters, the declines in mortgage indices were more modest and, in the case of AAA-rated subprime mortgage-backed securities, the index actually increased during the quarter, as shown in Exhibit 26.[160] However, equity analysts did forecast additional write-downs as a result of Lehman's stated goal to reduce mortgage exposure during fiscal Q2 2008, as discussed above. Analysts noted that increased write-downs could result from "fire sales" and "ongoing price discovery that reflects new potential write-downs with every major troubled asset sale."[161] Analysts also did not rule out additional future write-downs should markets decline further. In its comments on June 3, 2008, Fox-Pitt Kelton noted:

> Granted, it is quite plausible that certain problem assets could fall further in value throughout 2H08, and thus every bulge name would have new writedowns, that may or may not necessitate capital replacement, depending on the magnitude of the write-downs and the other results.[162]

102. On June 9, 2008, Lehman announced its fiscal Q2 2008 earnings, disclosing a write-down of $3.7 billion. During the quarter, Lehman reduced exposure to real estate assets by approximately 20% and acquisition finance by approximately 35%, and it reduced its non-investment grade inventory by approximately 20%.[163] The size of the write-down surprised

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[158] The Buckingham Research Group, "Lehman Brothers (LEH) Strong Buy," March 19, 2008, p. 2.

[159] Merrill Lynch, "Lehman Brothers Holdings Inc," May 21, 2008, p. 3. *See also* Credit Suisse, "Lehman Brothers – Forecast Reduction," May 21, 2008, p. 1 (primary driver of Q2 estimate cut is "incremental marks against the residential and commercial real estate exposures").

[160] *See, e.g.*, Fox-Pitt Kelton Cochran Caronia Waller, "Lehman Brothers," June 3, 2008, p. 1 ("in fiscal 2Q08, indices rallied").

[161] For example, Fox-Pitt Kelton forecasted $2.2 billion in additional write-downs due to "peer fire sales [having] affected the mark-to-model acting, which required the gross write-downs" and Deutsche Bank's comments that "Lehman's harsh realism could partly be a function of the quarter, which includes the dismal month of March, and the industry's ongoing price discovery that reflects new potential write-downs with every major troubled asset sale." Fox-Pitt Kelton Cochran Caronia Waller, "Lehman Brothers," June 3, 2008, p. 1; Deutsche Bank, "Meeting w/the CEO," May 5, 2008, p. 2.

[162] Fox-Pitt Kelton Cochran Caronia Waller, "Lehman Brothers," June 3, 2008, p. 1.

[163] "Lehman Brothers Announces Expected Second Quarter Results," Lehman Brothers Press Release, June 9, 2008, p. 9; "Lehman Brothers Reports Second Quarter Results," Lehman Brothers Press Release, June 16, 2008.

some analysts such as Buckingham Research, which had forecasted a $2.5 billion write-down,[164] and continued to disappoint others, such as UBS, given the "remaining exposures (still big as 80% still remain) and opacity of a few key exposures (like where Archstone or Alt-A are marked)."[165] Following this announcement, equity analysts maintained their focus on Lehman's risky asset exposures and the potential for future write-downs. For example:

> Lehman sold $20 bil. of problem assets, and reportedly not just the easiest to move (as many bears had assumed), leaving another $65 bil. Time will tell whether these (ditto for peers) will need further write-downs, should mkts deteriorate more or sales come in lower.[166]

> As long as the broad economy remains under pressure, the potential remains for losses and delinquencies on mortgage and credit assets to increase.[167]

> [T]he remaining $65 billion of risk exposures, which could see additional mark-to-market hits in coming months as the economic backdrop weakens.[168]

> The adequacy of write-downs and the outlook for the next few quarters remain unclear…. [W]e see…large exposure to res. and comm. mortgages, and high customer defections as weighing on Lehman's stock price.[169]

Ratings agencies also noted the risk for further downgrades associated with Lehman's exposure to risky assets after Lehman's pre-announcement of its fiscal Q2 2008 results.[170]

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[164] The Buckingham Research Group, "Lehman Brothers (LEH) Strong Buy," June 9, 2008, p. 2. *See also* Merrill Lynch, "Lehman Brothers Holdings Inc," June 10, 2008, p. 4 ("Mark-to-market losses were considerably higher than anticipated, because markets continued to deteriorate and actual sales did not prove the validity of prior-quarter marks. We had forecast mark-to-market losses around $2.5bn (just under half the Q1 level, gross) but the number was actually $4.9bn (again, gross basis).").

[165] UBS Investment Research, "First Read: Lehman Brothers," June 9, 2008, p. 1. *See also* Credit Suisse, "Lehman Brothers – Recalibrating Expectations," June 10, 2008, p. 1 ("We appreciate the accomplishment of the de-leveraging and the 15-20% reduction in its real estate inventories, but the retained exposure remains too large in so uncertain a macroeconomic environment.").

[166] Fox-Pitt Kelton Cochran Caronia Waller, "LEH: Raise and Write-Downs, But Not a 'Capitulation'," June 9, 2008, p. 1.

[167] Merrill Lynch, "Lehman Brothers Holdings Inc," June 10, 2008, p. 4.

[168] UBS Investment Research, "Lehman Brothers – Unanswered Questions Continue To Weigh," June 10, 2008, p. 4.

[169] J.P. Morgan, "Lehman Brothers – LEH Earnings In Line with Preannouncement, Risks Persist," June 16, 2008, p. 1.

[170] Moody's Investors Service, "Moody's changes Lehman's rating outlook to negative," Global Credit Research Rating Action, June 9, 2008; Fitch Ratings, "Fitch Downgrades Lehman Brothers' L-T & S-T IDRs to 'A+/F1'; Outlook Negative," June 9, 2008.

103. Consistent with analysts' concerns, real estate and credit markets continued to deteriorate throughout calendar Q3 2008. Exhibits 13, 19, 20, and 26 demonstrate continued declines in the commercial real estate market throughout the quarter. In addition, Exhibit 32 shows that before Lehman announced its preliminary fiscal Q2 2008 earnings on June 9, 2008, and before it filed its 10-Q for that quarter on July 10, 2008, the ABX and CMBX indices already had experienced noticeable declines. Soon after on July 23, 2008, UBS summarized Lehman's position as

> [T]he company got caught owning too many illiquid assets relative to the size of its equity base when the music stopped…[g]iven our overall negative view on the credit, economic and capital market backdrop, we do think that Lehman's remaining "problem" exposures ($83 billion across residential and commercial mortgage, real estate, other ABS, and leveraged loans) will continue to weigh on the shares and likely lead to further write-downs as the credit crisis drags on.[171]

104. Fox-Pitt Kelton indicated on July 25, 2008 that "[t]he bear case on Lehman" was that "Lehman has consistently taken write-downs on its problematic assets for several quarters" and "this could easily continue."[172] Buckingham Research identified that mortgage market declines "will once again be the overriding factor in 3Q08."[173] Oppenheimer highlighted the declines during calendar Q3 2008 in the ABX, CMBX, and LCDX indices.[174] In August 2008, Bernstein Research cautioned about future write-downs because of Lehman's exposure to high risk assets:

> Bernstein does not expect a full credit market recovery until at least early 2009. This does not bode well for Lehman which still has one of the largest exposures to the troubled areas of the fixed income markets (sub-prime and Alt-A RMBS, CMBS, CDOs and leveraged loans). And according to fixed income experts, the commercial real estate market is beginning to weaken. And unfortunately Lehman is still substantially exposed to both residential and commercial mortgages. And this potentially means further write-downs over the next couple of quarters—at least until Lehman can reduce its CMBS exposures.[175]

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[171] UBS Investment Research, "Lehman Has Options, Albeit Costly Ones," July 23, 2008, p. 4.
[172] Fox-Pitt Kelton Cochran Caronia Waller, "Selling Neuberger Could Be Part of MBO/Going-Private," July 25, 2008, p. 6.
[173] The Buckingham Research Group, "Lehman Brothers (LEH) Strong Buy," August 20, 2008, p. 2.
[174] Oppenheimer, "LEH: Cutting Estimates," September 8, 2008, pp. 2–3.
[175] Bernstein Research, "LEH: Shedding $30 Billion of Commercial Mortgage Exposure?" August 4, 2008, p. 2.

105. As mortgage and credit markets deteriorated throughout fiscal Q3 2008, equity analysts generally increased their estimated net write-downs for Lehman. On September 10, 2008, Lehman released its fiscal Q3 2008 earnings, announcing net write-downs of $5.6 billion and citing "significant reduction in residential mortgages, commercial real estate and other less liquid assets."[176] In conjunction with the write-downs, Lehman announced that major real estate asset indices showed steep declines in the third quarter.[177] Exhibit 33 summarizes equity analysts' estimates of net write-downs for Lehman's fiscal Q3 2008. The exhibit shows that although Lehman's announced net write-down was larger than the average analyst estimate, several analysts—Deutsche Bank, Merrill Lynch, and Bank of America—overestimated the amount of write-downs for fiscal Q3 2008. Each of these over-estimates occurred within one week prior to Lehman's announcement of fiscal Q3 2008 earnings, indicating that market participants increased their expectations of large write-downs after the continued declines in mortgage and credit markets during fiscal Q3 2008.

B. Lehman's Financial Reporting For Repo 105s Did Not Conceal The Liquidity Risk That Materialized

106. As discussed above, Lehman's failure resulted from the materialization of risks, including liquidity risks, that were known to market participants by no later than the failure of Bear Stearns in March 2008. Lehman's financial reporting for Repo 105s did not conceal these risks, and Lehman's filing for bankruptcy was not a foreseeable consequence of the liquidity risks that materialized at Lehman.

1. The Market Was Aware Of The Liquidity Risk That Materialized For Lehman, Which Was Not Obscured By Lehman's Financial Reporting For Repo 105s

107. Liquidity generally refers to a firm's ability to satisfy short-term operating and financing needs with cash, either from cash on hand, cash earned through income-generating activities, or cash generated through the sale of assets. Liquidity is distinct from capital adequacy. A firm

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[176] "Lehman Brothers Announces Preliminary Third Quarter Results and Strategic Restructuring," Lehman Brothers Press Release, September 10, 2008, pp. 1–2.

[177] *See* Q3 2008 Preliminary Lehman Brothers Holdings Inc. Earnings Conference Call, September 10, 2008.

can have more assets than liabilities (i.e., positive equity or adequate capital or "balance sheet solvent"), but if the assets cannot be quickly used to generate liquidity (either through sale or pledged for credit), the firm could be unable to meet short-term operating and financing needs ("cash flow insolvent").[178] Liquidity for investment banks typically is measured as ready access to funds essential for running their businesses.[179]

108. Market participants were aware of the liquidity risk faced by Lehman if its counterparties lost confidence in Lehman's ability to meet its obligations. The concern was that if some counterparties began to withdraw their lending activities to Lehman, other counterparties would follow. With the withdrawal of many counterparties, the fear was that the broader market would lose confidence in Lehman, thereby making Lehman unable to generate sufficient liquidity to operate. Many analysts acknowledged this risk. For example, a Ladenburg Thalmann analyst report in July 2008 stated that "[c]onstant pounding of the company's stock with one rumor after another may eventually get to the business…. After a while, people might start worrying about doing business with Lehman. It seems there's a concentrated effort to break Lehman."[180] A Fox-Pitt Kelton analyst report noted:

> We continue to believe that the decline in Lehman's stock has little to do with the company's liquidity and balance sheet, but is more based on investors' pricing in the probability of a Bear Stearns-like run-on-the-bank. Meanwhile, we believe there is increasing danger that counterparties, creditors, and customers will be spooked by the stock's action, thus completing the vicious cycle of a self-fulfilling prophecy.[181]

S&P also noted that it "cannot ignore the possibility that the firm could suffer severely if there is an adverse change in market perception, however ill-founded."[182]

109. Lehman's financial reporting for Repo 105s did not conceal this risk. The risk of a run on the bank scenario is endemic to the business model of Lehman and other investment banks

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[178] "Answers to Frequently Asked Investor Questions Regarding The Bear Stearns Companies, Inc.," U.S. Securities and Exchange Commission, March 18, 2008, available at http://www.sec.gov/news/press/2008/2008-46.htm.

[179] *See, e.g.*, Lehman fiscal 2007 10-K, p. 17.

[180] "Lehman Shares Sink as Fannie, Freddie Plunge Further (Update3)," *Bloomberg News*, July 10, 2008.

[181] Fox-Pitt Kelton Cochran Caronia Waller, "Going Private May Be the Best Course of Action," July 14, 2008, p. 1.

[182] Standard & Poor's, "Lehman Brothers Holdings Inc.," Ratings Direct, April 3, 2008, p. 2.

that rely on short-term funding.[183] The liquidity risk associated with this scenario does not entail the risk that a particular counterparty withdraws or that a particular funding transaction or amount of funding cannot be rolled over. Instead, liquidity risk involves the risk that there is a run on the bank in which a large number of counterparties withdraw until the bank is unable to generate sufficient liquidity to operate.[184] There is no reliable basis to conclude that disclosure of Lehman's Repo 105s would have changed the market's perception of this risk.

110. Consistent with Professor Ferrell's conclusions,[185] it is also my opinion that Lehman's Repo 105s would not have been perceived as posing a liquidity risk for several reasons. As discussed in Section IV.D, the assets used in Repo 105s were comprised of high-quality and liquid securities.[186] Analysts did not express concern about repos backed by these types of assets and explicitly were not concerned with repos backed by government and agency securities, which accounted for the majority of assets used in Repo 105s.[187] A Citi analyst report noted in July 2008 that "Lehman's repo book is comprised of nearly 50% government and agency securities, for which there is a very liquid market."[188] As late as September 11, 2008, Buckingham Research indicated that one reason "[l]iquidity risk appears low" is that "greater than 50% of its repo lines are collateralized by highly liquid US Treasury and Agency securities."[189] Further, according to Robert Azerad, Lehman's Global Head of Asset and Liability Management, Lehman remained able to enter into repo transactions with its government and agency securities even after it filed for bankruptcy.[190]

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[183] *See, e.g.*, William O. Fisher, "Predicting a Heart Attack: The Fundamental Opacity of Extreme Liquidity Risk," *Temple Law Review* (July 13, 2013): 30–31.

[184] Similarly, the Examiner indicated the extent to which counterparty and market confidence were critical to Lehman's ability to survive: "Confidence was critical. The moment that repo counterparties were to lose confidence in Lehman and decline to roll over its daily funding, Lehman would be unable to fund itself and continue to operate." Examiner's Report, p. 3.

[185] Professor Ferrell has opined that there is no economic basis to conclude that disclosure of Lehman's Repo 105s would have had a meaningful effect on the market's perception of Lehman's liquidity risk.

[186] The size of repo haircuts and the risk of rollover depend in part on the quality of the repo assets, with higher-quality assets at lower risk for haircuts and rollover risk. Quality of collateral is measured both as the volatility in the asset value and liquidity of the market for the asset. *See, e.g.*, Gary Gorton and Andrew Metrick, "Securitized Banking and the Run on Repo," *Journal of Financial Economics* 104, no. 3 (June 2012): 425–451.

[187] [redacted].

[188] Citi, "Analysis of Broker 10-Qs," July 14, 2008, p. 11.

[189] The Buckingham Research Group, "Lehman Brother (LEH) Neutral," September 11, 2008, p. 3.

[190] Lehman's Global Head of Asset and Liability Management Robert Azerad "thought that there would be sufficient demand for Repos collateralized with government and agency securities and if I may add, after Lehman

111. The majority of the types of assets used in Repo 105s also faced smaller increases in haircuts, if any at all, relative to other types of assets between the spring of 2007 and fall of 2008. While repo haircuts generally increased during the crisis, there was little or no increase in haircuts for the most liquid assets. For instance, the average haircut on U.S. short-term Treasuries remained at 2% even after Lehman failed.[191] The tri-party repo market was particularly stable, with evidence that "[h]aircuts in the tri-party repo market barely moved during the crisis."[192] In fact, haircuts for Lehman generally were flat until a couple of days before its bankruptcy filing.[193] In addition, the larger amount of collateral used in Repo 105s as compared with the amount of collateral used in repos accounted for as secured financing[194] mitigated liquidity risk from potential increases in market-wide haircuts, or the risk of a decline in the value of assets used in Repo 105s.

2. Lehman's Bankruptcy Was Not A Foreseeable Consequence Of The Liquidity Risks That Materialized

112. Lehman's bankruptcy filing was not a foreseeable consequence of the liquidity risks that materialized; Lehman's liquidity risks were considered substantially mitigated by Lehman's large liquidity pool and unencumbered assets, the Federal Reserve's lending programs, and the market's belief that a strategic acquirer would likely emerge and/or the U.S. government would bail out or assist in a takeover of Lehman if a liquidity crisis ensued.[195] There is no reliable basis to conclude that market participants would have concluded that a Lehman bankruptcy was a foreseeable consequence had there been a disclosure of Lehman's Repo 105s.

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filed for bankruptcy the week of September 15, we were able to roll these securities." Deposition of Robert Azerad, July 24, 2013, 316:21–318:2.

[191] Arvind Krishnamurthy, "How debt markets have malfunctioned in the crisis," *Journal of Economic Perspectives* 24, no. 1 (Winter 2010): 3–28 at 10.

[192] Adam Copeland, Antoine Martin, and Michael Walker, "The Tri-Party Market before the 2010 Reforms," Federal Reserve Bank of New York Staff Reports, no. 477 (November 2010), p. 2.

[193] The Federal Reserve Bank of New York found that "[s]urprisingly…, alongside the dramatic decrease in collateral posted, Lehman Brothers did not face higher haircuts until just before it declared bankruptcy," with its median haircut "essentially flat until Thursday, September 11, two business days before declaring bankruptcy." Adam Copeland, Antoine Martin, and Michael Walker, "The Tri-Party Market before the 2010 Reforms," Federal Reserve Bank of New York Staff Reports, no. 477 (November 2010), p. 59.

[194] [redacted]

[195] *See* Section VII.C demonstrating that individual action plaintiffs believed that the government would bail out or assist in a takeover of Lehman if a liquidity crisis ensued.

113. In assessing Lehman's liquidity risk, market participants commonly focused on Lehman's disclosed liquidity pool, especially after Bear Stearns' collapse.[196] Lehman's liquidity pool consisted of liquid assets that were available to be sold to generate cash.[197] Exhibit 34 demonstrates that Lehman and its peers substantially increased the size of their liquidity pools in fiscal Q2 2008 following Bear Stearns' failure. In addition to the liquidity pool, market participants looked to Lehman's other unencumbered assets.[198] Unencumbered assets are assets that are not pledged as collateral and are therefore available to raise funds through a sale or from secured lending.[199] Exhibit 35 compares the liquidity pool and unencumbered assets (together "liquidity reserve") of Lehman and its peers. The exhibit shows that Lehman's liquidity reserve generally was in-line with the corresponding liquidity reserves of Goldman Sachs, Morgan Stanley, and Bear Stearns.[200]

114. Many market participants focused on the total size and changes in the reported liquidity measures, which would have been unaffected by a disclosure of Lehman's Repo 105s.[201] Some market participants scaled the liquidity pool by either total equity or total assets in order to make comparisons among peer companies. Exhibit 36 shows that Lehman's liquidity pool as a percent of total equity, which would have been unaffected by a disclosure of Lehman's Repo 105s, was the lowest among its peers in each fiscal quarter of 2008. Exhibit 37 shows that Lehman's liquidity pool as a percentage of total assets would have declined by less than one percentage point if it was adjusted to include the Repo 105 assets. Furthermore, Lehman's liquidity measure would have remained the lowest among its peer group during each fiscal

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[196] *See, e.g.*, The Buckingham Research Group, "Lehman Brothers (LEH) 1Q08: Underlying Earnings Power Remains Intact," March 19, 2008, p. 2; Deutsche Bank, "It is not Bear," March 17, 2008, p. 1; Oppenheimer, "LEH Dispels Negative Speculation with 1Q08 Earnings," March 18, 2008, p. 1; J.P. Morgan Credit Research, "Goldman Sachs and Lehman Brothers: Weathering the Storm," March 19, 2008, p. 1; UBS Investment Research, "A Sign of Relief," March 19, 2008, p. 2.

[197] *See, e.g.*, Lehman fiscal 2007 10-K, p. 56.

[198] *See, e.g.*, Wachovia, "LEH: Provides A Sigh Of Relief - Delivers An ROE Of 17.1%," September 19, 2007, p. 54.

[199] *See, e.g.*, Lehman fiscal 2007 10-K, p. 57. Unlike the liquidity pool, however, Lehman's unencumbered assets were not necessarily only liquid instruments with high collateral pledge value.

[200] It is my understanding that the assets used in Repo 105s were considered encumbered and therefore could not have been included in the liquidity pool or unencumbered assets. Thus, a disclosure of Lehman's Repo 105s would not have increased these amounts.

[201] *See, e.g.*, The Buckingham Research Group, "Lehman Brothers (LEH) – Rating Agency Risk Too High," September 11, 2008, p. 3; HSBC Global Research, "Lehman Brothers," September 11, 2008, p. 5; UBS Investment Research, "Lehman Brothers – Crunch Time for Lehman," September 11, 2008, p. 1.

quarter of 2008 if there had been a disclosure of Lehman's Repo 105s. As shown in Exhibit 38, when considering the liquidity reserve as a percentage of total assets, Lehman's ratio would have declined but remained the highest among its peer group for fiscal Q1 and fiscal Q2 2008.[202] In sum, Lehman's relative position vis-à-vis its peers would not have changed if there had been a disclosure of Lehman's Repo 105s.

115. Beyond Lehman's liquidity reserve, many market participants believed that Lehman's liquidity risk was mitigated by the Federal Reserve's lending programs and a belief that the U.S. government would bail out or assist in a takeover of Lehman if Lehman faced a liquidity crisis. Some market participants were particularly comforted by the PDCF.[203] As discussed in Section V.C, the PDCF was established after Bear Stearns' liquidity crisis and subsequent failure in March 2008 and was "intended to help restore the orderly functioning of the market."[204] The PDCF allowed financial institutions to borrow using a variety of eligible collateral, including some of the types of assets used in Repo 105s.[205]

116. Equity analysts consistently cited the comfort provided by the Fed's PDCF. For example, after Bear Stearns' collapse in March 2008, a Citi analyst report noted that "it's tough to have a liquidity-driven meltdown when you're being backed by government entities that have the ability to print money."[206] Morgan Stanley noted that the "PDCF serves as a 'backstop' for the group against another 'run-on-the-broker' scenario from playing out."[207] A Merrill Lynch analyst report stated "for the time being recent Fed actions appear to have eliminated the possibility of another Bear Stearns type run."[208] As late as September 2008, analysts commented that "Fed actions appear to have eliminated the possibility of another Bear Stearns

[202] Lehman's other unencumbered assets for fiscal Q3 2008 were not disclosed prior to bankruptcy.

[203] Other lending facilities also provided support, including the Fed's Term Securities Lending Facility.

[204] "The Federal Reserve's Primary Dealer Credit Facility," Federal Reserve Bank of New York, *Current Issues in Economics and Finance* 15, no. 4 (August 2009): 1, 4. The PDCF was not the first intervention of the Federal Reserve to offset increased liquidity risk of banks as the Federal Reserved also injected $24 billion in overnight credit into the interbank market in August 2007. Markus K. Brunnermeier, "Deciphering the Liquidity and Credit Crunch 2007–2008," *Journal of Economic Perspectives* 23, no. 1 (Winter 2009): 77–100 at 85.

[205] Prior to Lehman's bankruptcy, collateral included securities that were both priced by clearing banks and either eligible for pledging in open market operations or were investment grade corporate securities, municipal securities, mortgage-backed securities, or asset-backed securities. PDCF Program Terms and Conditions, effective 3/16/08, available at http://www newyorkfed.org/markets/pdcf_terms_080316.html; Humberto M. Ennis, "Strategic Behavior in the Tri-Party Repo Market," *Economic Quarterly* 97, no. 4 (Fourth Quarter 2011): 389–413 at 392.

[206] Citi, "Upgrading To Buy; Reality Will Trump Fear," March 28, 2008, p. 1.

[207] Morgan Stanley, "Lehman Brothers: Bruised, Not Broken – and Poised for Profitability," June 30, 2008, p. 8.

[208] Merrill Lynch, "Cutting PO to $25 as earnings remain elusive," July 28, 2008, p. 7.

type run"[209] and that "[w]e don't see any potential liquidity issues with the Fed backstop in place."[210] On September 11, 2008, a UBS analyst report stated that it "believe[s] that Lehman's counterparties (especially the US ones) aren't going anywhere thanks to the Fed facility."[211] The benefits of access to additional funding from the Federal Reserve also were depicted in comments from ratings agencies:

> The U.S. Federal Reserve announced direct access to the Fed Discount Window to all of the investment banks. This substantially increases available liquidity to all of the investment banks. Lehman expects to access this facility due to acceptance of various securities and favorable rates.[212]

> The supportive actions of the Federal Reserve, including the temporary introduction of the Primary Dealer Credit Facility ("PDCF") and the Term Securities Lending Facility ("TSLF"), have played a critical role in helping to stabilize funding markets in the wake of the Bear Stearns collapse. These actions have provided at least an interim solution to industry-wide structural liquidity challenges.[213]

117. Generally, market participants also believed that, in the event of a liquidity crisis, the U.S. government would intervene to either bail out Lehman or facilitate a sale of Lehman to another financial institution. This assumption was supported by the Federal Reserve's central role in the acquisition of Bear Stearns by J.P. Morgan.[214] Expectations for government intervention were expressed by numerous analysts:

> [Lehman] also has one thing that it shares with Bear Stearns—it is too big to fail in our opinion. The interconnectedness of the firm within the global financial system is firmly bound. We have to believe that no regulator or central banker

[209] Merrill Lynch, "Cutting forecasts on asset-sale scramble, capital raising," September 1, 2008, p. 11.
[210] Citi, "Perception Trumps Fundamentals For Now, Downgrading To Hold," September 11, 2008, pp. 1, 5.
[211] UBS Investment Research, "Crunch Time for Lehman," September 11, 2008, p. 2.
[212] Fitch Ratings, "Fitch Comments on Lehman Brothers Liquidity and Earnings," March 18, 2008.
[213] Moody's Investors Service, "Moody's lowers Lehman Brothers rating to A2, outlook negative," Global Credit Research Rating Action, July 17, 2008, p. 389.
[214] Humberto M. Ennis, "Strategic Behavior in the Tri-Party Repo Market," *Economic Quarterly* 97, no. 4 (Fourth Quarter 2011): 389–413.

> really wants to find out what a massive counterparty risk failure would look like.[215]
>
> We don't see any potential liquidity issues with the Fed backstop in place and we view Lehman's strategic initiatives as an incremental positive, however confidence and perception issues are overwhelming Lehman's franchise value.[216]

118. That Lehman's bankruptcy was not a foreseeable consequence of the materialization of the liquidity risks it faced is reflected in the changes in Lehman's common stock and bond prices during 2008. Bonds typically are issued with regular coupon payments and set maturity dates when bondholders receive the principal or face value of the bonds. This is in contrast to common stock, which entitles an investor to a firm's residual earnings, after payments to bondholders and other financial obligations are met. Because of this payout structure, bond prices are highly sensitive to the probability of the issuer's default and the bondholders' expected recovery in the event of such a default. The fact that the value of Lehman's bonds generally maintained their value up until the week of Lehman's bankruptcy, as compared to Lehman's common stock which declined substantially prior to this time, indicates that bond investors considered the probability of Lehman's default to be low until shortly before Lehman filed for bankruptcy. Upon Lehman's bankruptcy announcement, some of Lehman's senior bonds declined only to $20–$30 per bond, reflecting the probability of some recovery of principal in the bankruptcy. Exhibits 4 and 6 provide a comparison of Lehman's stock and bond price performance during 2008.

119. During the weekend immediately prior to Lehman's bankruptcy filing, potential acquirers of Lehman, including Bank of America and Barclays, apparently considered government assistance to be a prerequisite to any deal to save Lehman.[217] However, the U.S. government decided not to provide any assistance and Lehman filed for bankruptcy on Monday, September 15, 2008. As a result, Lehman's liquidity risk materialized in a way that was not

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[215] HSBC Global Credit Research, "Lehman Brothers: De-risking and depending on markets to hold," September 11, 2008.

[216] Citi, "Perception Trumps Fundamentals For Now, Downgrading To Hold," September 11, 2008, p. 6.

[217] Markus K. Brunnermeier, "Deciphering the Liquidity and Credit Crunch 2007–2008," *Journal of Economic Perspectives* 23, no. 1 (Winter 2009): 89.

foreseeable, nor would market participants have believed it was foreseeable if there had been a disclosure of Lehman's Repo 105s.[218]

C. Disclosure Of Lehman's Repo 105s Would Not Likely Have Altered Plaintiffs' Assessment Of The Risks That Materialized At Lehman

1. CalPERS' Testimony And Documents

120. [redacted] the testimony of CalPERS' representative, Kevin A. Winter,[219] indicate that it is not likely that a disclosure of Lehman's Repo 105s would have altered CalPERS' assessment of the risks that ultimately materialized for Lehman. This is consistent with my analysis in Sections V to VII.B demonstrating that the alleged failure to provide a disclosure of Lehman's Repo 105s did not cause plaintiffs' claimed loss.

121. First, Mr. Winter acknowledged that net leverage is a blunt tool that does not account for the risks of individual assets, clarifying that he did not view net leverage as a measure of liquidity, but rather as "financial risk, financial being the financing part of the risk versus how many times you've geared."[220] However, in measuring financial risk, Mr. Winter acknowledged that equal amounts of cash, Treasuries, and real estate would individually affect the net leverage ratio by an equal amount,[221] and stated that the net leverage ratio is calculated "assuming all assets are treated the same."[222] There also is an indication that CalPERS used net leverage as a comparative tool among peer companies. For example, [redacted]

[218] "Lessons from the Failure of Lehman Brothers," Statement by Ben S. Bernanke, Chairman of the Board of Governors of the Federal Reserve System before the Committee of Financial Services U.S. House of Representatives, Washington, DC, April 20, 2010, p. 2.

[219] Mr. Winter was designated as CalPERS' 30(b)(6) witness and was "the person at CalPERS primarily responsible for CalPERS' investment in corporate [debt] securities" since 1996. Deposition of Kevin A. Winter, June 4, 2013, 16:13–16.

[220] Deposition of Kevin A. Winter, June 4, 2013, 191:18–24.

[221] Deposition of Kevin A. Winter, June 4, 2013, 189:3–24.

[222] Deposition of Kevin A. Winter, June 4, 2013, 189:3–13.

[223] Lehman MDL Exhibit 386 [redacted] CalPERS-Lehman0002778–9).

122. Second, [redacted] testimony indicate it was focused on Lehman's exposure to real estate–related and other illiquid assets and Lehman's write-downs, which were not concealed by Lehman's financial reporting for Repo 105s. For example, [redacted].[224] Mr. Winter testified that CalPERS assessed Lehman's risk exposure by analyzing the composition of its assets.[225] In fact, [redacted]

[redacted][226]

123. Third, CalPERS' [redacted] testimony also indicate its belief that government intervention or a strategic buyout would likely prevent a Lehman bankruptcy. Mr. Winter testified that "with the Fed coming in -- or the Treasury and the Fed coming in on Bear Stearns, we sort of said, they're probably not going to let these guys go down." He went on to testify that "Bear was probably the least…valuable to the economy versus other major firms…[s]o it was like, okay, if they're willing to do that, there -- probably there is somewhat of a too big to fail thing in the market."[227] If the federal government did not intervene, another company would

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[224] MDL Exhibits 380 [redacted], CalPERS-Lehman0001572–3 ([redacted] 381 [redacted], CalPERS-Lehman0001563–4 [redacted]); 389 [redacted], CalPERS-Lehman0001565–6 [redacted]")); 390 ([redacted], CalPERS-Lehman0001567–71 ([redacted].")).

[225] Deposition of Kevin A. Winter, June 4, 2013, 216:1–217:6.

[226] Lehman MDL Exhibit 392 ([redacted] CalPERS-Lehman0002791–5 at 4).

[227] Deposition of Kevin A. Winter, June 4, 2013, 112:2–9.

buy Lehman because Lehman was more valuable than Bear Stearns: "I couldn't see them not being taken over by somebody else."[228] [redacted] There is no indication that CalPERS would have altered its view regarding government intervention or a strategic buyout of Lehman if there had been a disclosure of Lehman's Repo 105s.

124. Finally, CalPERS' testimony [redacted] indicate that a disclosure of Lehman's Repo 105s would not have altered its assessment of Lehman's liquidity risk. In analyzing Lehman's liquidity risk, Mr. Winter testified that the composition of assets drives its assessment of liquidity risk, stating, "Typically, you go and say, okay, do they hold a bunch of stuff like real estate, you know, hold on real estate, which is a lot less liquid, so we would do that analysis."[230] Importantly, Mr. Winter acknowledged that in assessing liquidity risk as it relates to a bank's ability to roll over repo financing, repos backed by liquid assets do not pose liquidity risk. Commenting on Lehman's repo book, Mr. Winter stated:

> There's descending liquidity there. Treasury securities, slam dunk. You know, the central -- the dealer credit facility, that's probably a slam dunk there, too. So it's just the ones that have to really go to the market, they might have a little bit more problem with that.[231]

2. Starr's Testimony And Documents

125. [redacted] This is consistent with my analysis in Sections V to VII.B demonstrating that the alleged failure to provide a disclosure of Lehman's Repo 105s did not cause plaintiffs' claimed loss.

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[228] Deposition of Kevin A. Winter, June 4, 2013, 186:23–187:1.
[229] Lehman MDL Exhibit 386 ([redacted], CalPERS-Lehman0002778–9 at 9).
[230] Deposition of Kevin A. Winter, June 4, 2013, 141:12–19.
[231] Deposition of Kevin A. Winter, June 4, 2013, 211:12–20.
[232] Mr. Matthews was designated as Starr's 30(b)(6) witness and, according to his deposition testimony, [redacted] Deposition of Edward E. Matthews, July 10, 2013, 42:21–43:7.

126. [redacted].[235] Mr. Matthews also testified that [redacted][236] Exhibit 28 demonstrates that Lehman's net leverage ratio with or without adjusting for the capital raise [redacted]

127. [redacted] Mr. Matthews testified that [redacted]"[237] As discussed in Section VII.A, Lehman's exposure to real estate–related and other illiquid assets and the potential for future write-downs were not concealed by Lehman's financial reporting for Repo 105s.

[233] Deposition of Edward E. Matthews, July 10, 2013, 156:18–157:6.

[234] Mr. Matthews testified that [redacted]. Deposition of Edward E. Matthews, July 10, 2013, 67:18–23; 111:11–112:13; 126:8–19. *See also* Lehman MDL Exhibit 621 ([redacted] STARR0002903–24).

[235] [redacted] Lehman MDL Exhibit 621 ([redacted] STARR0002903–24 at 05–06).

[236] Deposition of Edward E. Matthews, July 10, 2013, 121:17–122:14.

[237] Deposition of Edward E. Matthews, July 10, 2013, 127:17–24, 139:6–21.

3. New Jersey's Testimony And Documents

128. Documents produced by New Jersey and the testimony of its former director, William Clark,[238] indicate that [redacted] This is consistent with my analysis in Sections V to VII.B demonstrating that the alleged failure to provide a disclosure of Lehman's Repo 105s did not cause plaintiffs' claimed loss.

129. First, [redacted] Mr. Clark testified that [redacted]"[239] He also stated that [redacted]."[240] Ultimately, Mr. Clark indicated [redacted]"[241] As discussed in Section VI.C, the level and trend in Lehman's net leverage ratio relative to its peers would have remained consistent had there been a disclosure of Lehman's Repo 105s.

130. Second, New Jersey's documents and testimony indicate that [redacted]. As previously discussed, the extent of that risk was not concealed by Lehman's financial reporting for Repo 105s. [redacted]

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[238] [redacted]. Deposition of William Clark, July 23, 2013, 18:11–15.
[239] Deposition of William Clark, July 23, 2013, 199:3–200:8.
[240] Deposition of William Clark, July 23, 2013, 200:16–201:7.
[241] Deposition of William Clark, July 23, 2013, 240:14–241:6.
[242] Lehman MDL Exhibits 729–732.

[redacted].[245] Mr. Clark recognized [redacted][246]

131. Third, New Jersey's documents and testimony indicate [redacted]"[247] Additionally, he stated that [redacted][248] I am not aware of any documents or testimony indicating that New Jersey would have altered its view regarding government intervention had there been a disclosure of Lehman's Repo 105s.

132. Finally, New Jersey's testimony and documents indicate that [redacted] Mr. Clark testified that [redacted]

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[243] Deposition of William Clark, July 23, 2013, 123:23–10, 126:24–127:8.
[244] Deposition of William Clark, July 23, 2013, 132:17–133:15.
[245] Deposition of William Clark, July 23, 2013, 262:20–263:15.
[246] Deposition of William Clark, July 23, 2013, 243:24–245:16.
[247] Deposition of William Clark, July 23, 2013, 89:6–23.
[248] Deposition of William Clark, July 23, 2013, 287:21–289:2.

[redacted].[249] [redacted]

[redacted][250]

[redacted][251] and that [redacted][252]

4. San Mateo's Testimony And Documents

133. Documents produced by San Mateo and the testimony of San Mateo's representative, Charles M. Tovstein,[253] indicate that disclosure of Lehman's Repo 105s would not likely have altered San Mateo's assessment of the risks that ultimately materialized for Lehman. This is consistent with my analysis in Sections V to VII.B demonstrating that the alleged failure to provide a disclosure of Lehman's Repo 105s did not cause plaintiffs' claimed loss.

134. In numerous documents, San Mateo indicates its belief that Lehman was too big to fail and that Lehman would either be acquired or bailed out by the federal government. As discussed in detail in Section VII.B, Lehman's financial reporting for Repo 105s did not conceal the risk that Lehman would fail to find an acquirer nor did it conceal the risk that the federal government would fail to rescue Lehman. For example, in the October 20, 2008 meeting of the

[249] Deposition of William Clark, July 23, 2013, 164:11–165:7, 265:13–18.
[250] Deposition of William Clark, July 23, 2013, 171:4–17.
[251] Deposition of William Clark, July 23, 2013, 173:3–20.
[252] Deposition of William Clark, July 23, 2013, 238:6–239:6.
[253] [redacted] Deposition of Charles M. Tovstein, August 28, 2013, 11:13–19, 21:2–22.

San Mateo County Investment Advisory Committee, Mr. Tovstein commented that Lehman's credit ratings could have risen from an A to AA rating if Lehman had been purchased during the weekend prior to bankruptcy, and summarized Lehman's failure as follows:

> Mr. Tovstein ended his report by saying it was perfect storm. He also believes politics were involved and that Secretary Treasurer Paulson regrets not stepping in and guaranteeing some of Lehman's outstanding liabilities so that Barclays would have bought them. He believes Mr. Paulson inaccurately felt it was time to "draw line in the sand". If Lehman had survived that weekend, J.P. Morgan would have released that money and there would have been no Lehman bankruptcy. Mr. Tovstein said he constantly watches all of the markets on daily basis and was right on top of the situation that Sunday. But on that Monday morning bankruptcy, there was nothing anyone could do. This was a world record bankruptcy that he knows no one saw coming.[254]

135. In a November 2008 memo to the San Mateo Honorable Board of Supervisors regarding San Mateo's investment decisions in Lehman bonds, Lee Buffington, the San Mateo Treasurer Tax Collector, noted that San Mateo, along with other market participants, concluded that Lehman was unlikely to file for bankruptcy:

> We like other observers of the market were of the opinion that such takeovers and other consolidation in the financial industry would likely continue. We further noted that the events related to Countrywide and Bear Steams in which noteholders were made whole led many observers to conclude that Lehman was unlikely to declare bankruptcy.[255]

Mr. Tovstein clarified that "since there was federal assistance for Bear Stearns and assistance where JP Morgan purchased them, yes, that did lead us to believe that all Lehman note holders would eventually be made whole."[256]

136. After Lehman's bankruptcy, investment consultants Alan Biller and Associates were retained to, among other things, "[r]eview the events and analyses that led to the decisions to

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[254] Lehman MDL Exhibit 1246A (Minutes of San Mateo County Investment Advisory Committee, October 20, 2008, LEH_SMCO_0047155–9 at 5, 8).

[255] Lehman MDL Exhibit 1238A (Memo from Lee Buffington, Treasurer Tax Collector, to Honorable Board of Supervisors, "Information regarding the Investment Pool and the Lehman Brothers Investment and Bankruptcy," November 3, 2008, LEH_SMCO_0049726–808 at 741).

[256] Deposition of Charles M. Tovstein, August 28, 2013, 80:25–81:3.

invest in and hold Lehman securities in the [San Mateo] County Investment Pool."[257] Alan Biller and Associates found that the rationale for San Mateo to continue to invest in and hold Lehman securities was simply that Lehman was too big to fail:

> The rationale for continuing to invest in and hold Lehman securities was quite simple: the Government was not going to let Lehman fail. After all, in March 2008 it had orchestrated shotgun takeover of Bear Stearns, and in the summer saved Fannie Mae and Freddie Mac by placing them into conservatorship. When it was taken over by JP Morgan, Bear Stearns was the fifth largest investment bank. The Fed maintained that Bear was too big to fail and that the repercussions of its collapse would have been catastrophic. As the fourth largest investment bank, Lehman was larger than Bear Stearns, a bigger participant in the mortgage-backed securities market and even more intertwined with the global economy. Based on this, it was quite logical to conclude that the government would not allow Lehman to fail because its failure could be more catastrophic than the Bear Stearns failure.[258]

Alan Biller and Associates also found that an assessment of San Mateo's credit analysis was moot by the summer of 2008 because "it was the common knowledge that Lehman was in bad shape" and at that point, "the decision to purchase and hold Lehman securities was less a function of its fundamentals than of a belief that it would be rescued."[259]

137. San Mateo also acknowledged that Lehman's exposure to real estate–related and other illiquid assets, particularly subprime mortgages, caused yield spreads on Lehman's securities to widen (which, in turn, would result in bond prices falling). For example, minutes of the October 15, 2007 meeting of the San Mateo County Investment Advisory Committee reflect Mr. Tovstein's opinion that Lehman was the "least favorable" of the financial company floating rate notes owned by San Mateo because "when the credit crisis spread began, spreads on all finance paper began to widen, Lehman Bros. was hit the worst because they were one of the first to be named in regards to subprime exposure."[260] As discussed in Section VII.A, Lehman's

[257] Lehman MDL Exhibit 1248A (County of San Mateo Investment Pool, Investment Consultants Report, Alan Biller and Associates, June 17, 2009, LEH_SMCO_0005115–57 at 18).

[258] Lehman MDL Exhibit 1248A (County of San Mateo Investment Pool, Investment Consultants Report, Alan Biller and Associates, June 17, 2009, LEH_SMCO_0005115–57 at 20).

[259] Lehman MDL Exhibit 1248A (County of San Mateo Investment Pool, Investment Consultants Report, Alan Biller and Associates, June 17, 2009, LEH_SMCO_0005115–57 at 20).

[260] Lehman MDL Exhibit 1243A (Minutes of San Mateo County Investment Advisory Committee, October 15, 2007, LEH_SMCO_0000211–38 at 12).

financial reporting for Repo 105s did not conceal Lehman's exposure to real estate–related and other illiquid assets, nor did it conceal the risk of losses on those assets if real estate and credit markets continued to deteriorate.

5. WSIB's Testimony And Documents

138. Documents produced by WSIB and the testimony of WSIB's representative, William Kennett,[261] indicate that [redacted] This is consistent with my analysis in Sections V to VII.B demonstrating that the alleged failure to provide a disclosure of Lehman's Repo 105s did not cause plaintiffs' claimed loss.

139. WSIB continued to hold Lehman securities despite rapid deteriorating conditions in real estate and credit markets. Minutes from a WSIB board meeting show that Mr. Kennett was aware of the challenging macroeconomic conditions during 2007 and 2008 and he knew of the stress in real estate and mortgage markets. Mr. Kennett stated in a February 2008 WSIB board meeting that:

> The global credit crunch also began in 2007, affecting among other things subprime mortgages, asset-backed commercial paper, structured investment vehicles, collateralized debt obligations, and leveraged loans. Write-downs have totaled \$150 billion and could grow to \$500 billion.[262]

140. Ultimately, Mr. Kennett testified that [redacted]"[263] As discussed in detail above, the alleged failure to provide a disclosure of Lehman's Repo 105s did not conceal the risks associated with Lehman's exposure to illiquid assets, the effects on those exposures from the deteriorating market environment, or the lack of government assistance to prevent bankruptcy.

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[261] [redacted] Deposition of William Kennett, July 19, 2013, 11:10–18.

[262] Lehman MDL Exhibit 720 (WSIB Board Meeting Minutes, February 21, 2008, p. 2).

[263] Deposition of William Kennett, July 19, 2013, 116:23–117:5.

141. Mr. Kennett also stated that [redacted]

> [redacted].[264]

There is no reliable basis to conclude that WSIB's evaluation of the likelihood of Lehman's failure based on its historical record of investing in Lehman would have been altered if there had been a disclosure of Lehman's Repo 105s.

142. [redacted][265] [redacted][266] In assessing the creditworthiness of an issuer, WSIB evaluated the economic outlook, the industry outlook, and the company outlook. It also took into account credit ratings and analyzed company financial statements.[267] [redacted]"[268] As discussed at length above, there is no reliable basis to conclude that the economic outlook, the industry

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[264] Deposition of William Kennett, July 19, 2013, 42:1–13.
[265] Deposition of William Kennett, July 19, 2013, 42:17–22.
[266] Deposition of William Kennett, July 19, 2013, 42:17–43:10.
[267] Lehman MDL Exhibit 710 (WSIB Fixed Income Program Presentation by William Kennett, dated May 11, 2012, p. 13).
[268] Deposition of William Kennett, July 19, 2013, 80:2–9.

outlook, or the outlook for Lehman (including Lehman's credit ratings) would have been substantially altered had there been a disclosure of Lehman's Repo 105s.

6. Other Individual Actions' Testimony And Documents

143. Documents and testimony by other individual action plaintiffs indicate that disclosure of Lehman's Repo 105s would not likely have changed their assessments of the risks that ultimately materialized for Lehman. This is consistent with my analysis in Sections V to VII.B demonstrating that the alleged failure to provide a disclosure of Lehman's Repo 105s did not cause plaintiffs' claimed loss. Other individual action plaintiffs recognized the limitations of, and did not rely on, Lehman's net leverage ratio. [redacted]

> [redacted]e.[269]

144. [redacted]

> [redacted][270]

[269] Lehman MDL Exhibit 982 ([redacted]" SCIFMDL00008827–9 at 8).

[270] Deposition of Kenneth R. Spray, August 20, 2013, 137:6–12.

[redacted][271]

[redacted][272]

145. According to testimony, plaintiffs understood that the market's focus was on Lehman's real estate–related and other illiquid assets—not its net assets. [redacted][273]

146. Therefore, information produced by plaintiffs in other individual actions and the testimony of their representatives indicate that disclosure of Lehman's Repo 105s would not likely have altered their assessments of the risks that ultimately materialized for Lehman. This is consistent with my analysis in Sections V to VII demonstrating that the alleged failure to provide a disclosure of Lehman's Repo 105s did not cause plaintiffs' claimed loss.

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[271] Deposition of Mary A. Zeeb, August 22, 2013, 150:5–9.
[272] Deposition of Debbie Kukta, August 23, 2013, 109:13–18.
[273] Deposition of Anne LeMire, August 19, 2013, 135:8–24.

VIII. Plaintiffs' Losses Were Not Caused By Lehman's Financial Reporting For Repo 105s And There Are No Damages

A. CalPERS Action: There Is No Loss Causation And No Damages Associated With The Rule 10b-5 And Section 11 Claims Regarding Common Stock Or Section 11 Claims Regarding Bonds

147. For its Rule 10b-5 claims regarding Lehman's common stock, none of the losses suffered by CalPERS on its investments in Lehman's common stock that occurred on the alleged corrective disclosure dates were caused by the alleged misrepresentations. Specifically, none of these losses were caused by the materialization of risks allegedly concealed by Lehman's financial reporting for Repo 105s. The information that was released on these days included (1) information distinct from Lehman's financial reporting for Repo 105s and (2) information about the materialization of risks that were not concealed by Lehman's financial reporting for Repo 105s. Because there is no loss causation, there are no damages associated with CalPERS' 10b-5 claims regarding Lehman's common stock in this matter.

148. For its Section 11 claims regarding common stock and bonds, none of the losses suffered by CalPERS were caused by the alleged misrepresentations. Specifically, none of these losses were caused by the materialization of risks allegedly concealed by Lehman's financial reporting for Repo 105s. The information that was released on these days included (1) information distinct from Lehman's financial reporting for Repo 105s and (2) information about the materialization of risks that were not concealed by Lehman's financial reporting for Repo 105s. Because there is no loss causation, there are no damages associated with CalPERS' Section 11 claims regarding Lehman's common stock and bonds in this matter.

1. Rule 10b-5 Claims Regarding Common Stock

149. I understand that in order for CalPERS to recover damages under Rule 10b-5 claims, it must establish that the disclosures of the alleged misrepresentations, including disclosures regarding the materialization of risks allegedly concealed by Lehman's financial reporting for Repo 105s, caused it to suffer an economic loss. In addition, CalPERS must also establish the

amount by which Lehman's stock price was inflated at the time of its purchases and sales of Lehman's common stock.[274]

150. CalPERS alleges that the price of Lehman's common stock was artificially inflated between June 12, 2007 and September 12, 2008. CalPERS further alleges that the risks concealed by Lehman's financial reporting for Repo 105s materialized in a series of announcements on June 9, 2008, September 8, 2008, September 9, 2008, September 10, 2008, and September 15, 2008.[275]

151. In the sections that follow, I discuss the results of my loss causation analysis, including an event study analysis to examine whether, and the extent to which, Lehman-specific information caused its stock price declines on the alleged corrective disclosure days. I also discuss my review of information released on each alleged corrective disclosure date that potentially had implications for the value of Lehman's common stock. In CalPERS' complaint, it recites various events that occurred on each of the alleged corrective disclosure days along with a general allegation that

> [t]he disclosures regarding Lehman's massive write-downs and liquidity problems (which led to Lehman's bankruptcy) revealed the truth about Lehman's financial condition and represented the materialization of several interrelated, concealed risks from Lehman's disregard for its risk limits and its massive Repo 105 transaction which masked the Company's net leverage and true liquidity issues.[276]

152. As of the date of this report, neither CalPERS nor the other individual action plaintiffs have specified how each of the alleged corrective disclosures identified in their complaints revealed the alleged misrepresentations, including the allegedly concealed risks. For this reason, and in the event the plaintiffs' experts identify other allegedly corrective information

[274] Even if CalPERS (or any other individual plaintiff) could establish loss causation, which is inconsistent with my opinions, the price declines on the alleged corrective disclosure days cannot be used as a proxy for the alleged inflation in Lehman's stock at earlier periods because (1) any decline in Lehman's stock price would reflect the materialization of an alleged risk and not necessarily the decline in stock price that would have occurred upon a revelation that the risk exists, but has not yet materialized; and (2) the circumstances and outlook facing Lehman evolved dramatically over time so any stock price reactions that occurred, for example, just prior to Lehman's bankruptcy, are not indicative of how Lehman's stock may have reacted to the same information at some earlier point in time. Furthermore, even assuming plaintiffs claim a particular amount of inflation, it does not necessarily follow that there is loss causation, that is, that subsequent price declines were associated with the removal of this alleged inflation *per se*.

[275] CalPERS Second Amended Complaint, ¶¶225–230.

[276] CalPERS Second Amended Complaint, ¶231.

released on these days, I consider all potentially value-relevant information on these days and provide my own assessment of whether the information reflects the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s.

a) Event Study Analysis

153. I conducted an event study to examine whether, and the extent to which, Lehman-specific information caused its stock price declines on the alleged corrective disclosure days. I determined that company-specific information likely caused Lehman's stock price declines on three of the alleged corrective disclosure dates: September 8, 2008, September 9, 2008, and September 15, 2008; and I estimate the portion of each stock price decline that can be reliably tied to company-specific information. I analyze this company-specific information below in Section VIII.A.1.b). I determined that there is no reliable basis to conclude that company-specific information caused Lehman's stock price declines on the alleged corrective disclosure dates of June 9, 2008 and September 10, 2008.

(1) Event Study Methodologies

154. Event study analysis, which I have used in several published papers, is commonly used in the academic literature to determine whether stock prices of public companies react significantly to various corporate events, such as earnings releases, dividend changes, and mergers and acquisitions.[277] Event study analysis takes into account the relation between a company's stock returns and the corresponding returns on market and/or industry indices on the relevant event dates. Regression analysis generally is used to estimate this relation. Parameters from the regression model are then used along with the actual performance of the market index and/or industry index on the day in question to estimate an expected return. The expected return is then subtracted from the actual return to estimate a residual return (sometimes referred to as an "abnormal return" or "market-adjusted return") on the relevant event date.

155. When performing event studies, it is conventional to test the "null hypothesis" that the residual return is zero against either the alternative hypothesis that the residual return is

[277] *See, e.g.*, A. Craig MacKinlay, "Event Studies in Economics and Finance," *Journal of Economic Literature* 35, no. 1 (March 1997): 13–39.

different from zero, or the alternative hypothesis that the residual has a particular sign (i.e., it is positive, or it is negative).[278] If the null hypothesis cannot be rejected at conventional levels of significance, then the residual returns are not considered to be statistically significant (i.e., they are not considered to be significantly different from zero). Under these circumstances, one cannot conclude that the observed residual return on the relevant date is attributable to the firm-specific information released on that date.

156. In event studies, the statistical significance of the residual returns typically is assessed by calculating a standardized measure of the size of the residual return known as a "t-statistic." A t-statistic with an absolute value of 1.96 or greater denotes statistical significance at the 5% level of significance (a conventional level at which such assessments are made) in a "two-tailed" test of statistical significance.[279] In a two-tailed test, the null hypothesis is that the residual return is zero, and the alternative hypothesis is that the residual return is different from zero (i.e., either positive or negative).[280]

157. Estimating a market model requires the choice of a market index and/or an industry index, and an estimation period. To choose a market index, I considered six possible market indices: the NYSE Composite Index, the S&P 500 Index, and both equal-weighted and value-weighted versions of NYSE/AMEX and NYSE/AMEX/NASDAQ/ARCA indices maintained by CRSP.

158. To choose an industry index, I considered both prefabricated indices and various custom indices based on combinations of possible peer companies for Lehman. I considered six prefabricated indices: S&P 500 Financials Index, S&P 1500 Financials Index, S&P Global

[278] *See, e.g.*, John Y. Campbell, Andrew W. Lo, and A. Craig MacKinlay, *The Econometrics of Financial Markets* (Princeton, NJ: Princeton University Press, 1997), at 160–66; A. Craig MacKinlay, "Event Studies in Economics and Finance," *Journal of Economic Literature*, Vol. 35, No. 1 (March 1997): 13–39; G. William Schwert, "Using Financial Data to Measure Effects of Regulation," *Journal of Law and Economics* 24 (1981): 121–57; Daniel R. Fischel, "Use of Modern Finance Theory in Securities Fraud Cases Involving Actively Traded Securities," *The Business Lawyer* 38 (1982): 1–20 at 19.

[279] *See, e.g.*, Jeffrey M. Wooldridge, *Introductory Econometrics: A Modern Approach*, 3rd ed. (Mason, OH: Thomson, 2006), 788–801, 849.

[280] A t-statistic with an absolute value of 1.65 or greater denotes statistical significance at the 5% level of significance in a "one-tailed" test of statistical significance. In a one-tailed test, the null hypothesis is that the residual return is zero, and the alternative hypothesis is that the residual return has a particular sign (e.g., it is positive). *See, e.g.*, Jeffrey M. Wooldridge, *Introductory Econometrics: A Modern Approach*, 3rd ed. (Mason, OH: Thomson, 2006), 788–801, 849.

1200 Financials Index, S&P 1500 Diversified Financials Index, NYSE Financials Index, and Bloomberg Americas Financial Index.[281]

159. To identify possible peer companies for Lehman, I reviewed (1) analyst reports on Lehman published by "all-star" equity analysts in 2008 and (2) Lehman's proxy statement (Form DEF-14A) filed on March 5, 2008. In 2008, eight equity analysts were identified as all-star analysts for "Brokers and Asset Managers" and "Banks/Large-Cap" by *Institutional Investor*.[282] Among them, only Brad Hintz, Meredith Whitney, and Mike Mayo published reports with relevant peer analysis. Exhibit 40 shows Lehman's peers according to each analyst and also Lehman's peers according to Lehman's March 5, 2008 proxy statement. As illustrated in the exhibit, three peer groups were constructed using this information: Peer Index 1 includes peers that were considered by all three all-star analysts, Peer Index 2 includes the Peer Index 1 companies as well as peers that at least one analyst mentioned, and Peer Index 3 includes all companies identified as peers in Lehman's proxy statement. Equal-weighted and value-weighted indices were created for each of these three peer groups, resulting in six custom indices that were tested.

160. In determining an appropriate estimation period to use, I examined the volatility of Lehman's common stock returns and changes in Lehman's beta with respect to the NYSE during 2008.[283] Exhibits 41 and 42 show that the 60-day volatility of Lehman's stock price and Lehman's beta with respect to the market increased substantially in March 2008, corresponding with the failure of Bear Stearns and indicating the potential for structural changes in the market. In light of this increased volatility, I estimated the regression from March 25, 2008 to September 5, 2008, which reflects the period after which J.P. Morgan announced its increased and final takeover bid for Bear Stearns[284] and the trading day prior to the first alleged corrective disclosure day in September 2008. Because this period contains only 116 trading days, I also

[281] Lehman was included in each of these indices during the Relevant Period.

[282] They are Brad Hintz from Stanford C. Bernstein, Glenn Schorr from UBS, and Guy Moszkowski from Merrill Lynch for "Brokers and Asset Managers," and Matthew O'Connor from UBS, Edward Najarian from Merrill Lynch, Michael Mayo from Deutsche Bank, Jason Goldberg from Barclays, and Meredith Whitney from Oppenheimer for "Banks/Large-Cap." "The 2008 All-America Research Team," *Institutional Investor*, October 2008.

[283] A company's beta with respect to a market index is a measure of systematic risk relative to the market; a beta higher than one indicates a company is more sensitive to systematic risk than the market.

[284] "JPMorgan Quadruples Bear Stearns Bid to Win Over Shareholders," *Bloomberg News*, March 24, 2008.

considered the period March 10, 2008 to September 5, 2008, which reflects 126 trading days, or approximately one-half of a year.

161. I tested all combinations of the six market and 12 industry indices for each of the two periods, resulting in a total of 144 different regression models.[285] I selected the regression model with the highest explanatory power.[286] The model I selected uses the NYSE/AMEX Value-Weighted Index as the market index, the S&P 500 Financials Index as the industry index, and March 25, 2008 to September 5, 2008 as the estimation period. The regression results for this specification are summarized in Exhibit 43.

(2) Event Study Results

162. Using the event study analysis, I analyzed Lehman's residual stock price returns on the alleged corrective disclosure days. I then identified all days during the period June 9, 2008 (the first alleged corrective disclosure date and the date of Lehman's common stock offering for which CalPERS alleges Section 11 claims) through September 15, 2008 on which Lehman's residual returns were negative and statistically significant. These results are presented in Exhibit 44.

163. I address each of the alleged corrective disclosure days in Section VIII.A.1.b) below (and other days with statistically significant negative returns in later sections of my report). For my analysis, I compiled and reviewed press articles from major business publications, newswires, and *Bloomberg News* as well as analyst reports and credit ratings agency reports for information releases about Lehman. Appendix B contains a compilation of the news articles I reviewed and a description of my search methodology.

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[285] The models specified were:

$$Lehman\ Stock\ Price\ Return = \beta_1 * Market\ Return + \beta_2 * Industry\ Excess\ Return + Constant$$

The industry excess return is the portion of the industry return not attributable to market movements. In order to calculate the industry excess return, the industry return is regressed against the market return to calculate the beta. Then, the resultant beta multiplied by the market return is subtracted from the industry return to obtain the industry excess return.

[286] Explanatory power is measured as the r-squared of the regressions—the higher the r-squared the more effective the model is at explaining fluctuations in the company's stock price, all else equal. In selecting the model with the highest explanatory power, I did not consider models that exhibited autocorrelation, heteroskedasticity, and/or residuals that were not normally distributed.

b) Analysis Of Alleged Corrective Disclosures

164. For reasons detailed below, none of the information released on the alleged corrective disclosure days reflected the materialization of risks allegedly concealed by Lehman's financial reporting for Repo 105s. I discuss each alleged corrective disclosure date in turn.

(1) June 9, 2008

165. On Monday, June 9, 2008[287,288] Lehman's stock price declined by 8.70% to close at $29.48, $2.81 below its previous closing price of $32.29. The residual decline on this day was $1.13, or 3.49%, which is not statistically significant at the 95% confidence level. Exhibit 45.a contains an intraday price chart of Lehman's common stock on June 9, 2008, with annotations of select events.

166. Several pieces of potentially value-relevant information were released on June 9, 2008. However, given that Lehman's residual return is not statistically significant, there is no reliable basis to conclude that the information released on this day caused Lehman's stock price to decline. Before the market opened, Lehman announced preliminary financial results for fiscal Q2 2008 and its plan to raise $6 billion through the sale of common and preferred stock. Shortly thereafter, Moody's announced it changed its rating outlook on Lehman from stable to negative. At 9:03 AM, prior to market open, Deutsche Bank issued an analyst report summarizing Lehman's financial results. At 10:00 AM, Lehman held a conference call, and at

[287] June 9, 2008 is an alleged corrective disclosure day in the CalPERS, Starr, New Jersey, and San Mateo actions, as shown in Exhibit 3. In its complaint, CalPERS notes: "On June 9, 2008, before the markets opened, Lehman issued a press release announcing its financial results for its second quarter of 2008 ending on May 31, 2008. Despite having previously announced success with its delevering plan, its strong liquidity position, that it had risk management policies in place and that its assets were fairly valued, the press release disclosed that Lehman took $4 billion in mark-to-market write-downs, including $2.4 billion in residential mortgage related holdings, $700 million in commercial positions, and $300 million in real estate held for sale. In addition, the Company announced that it would raise $6 billion through a combined offering of preferred and common shares. On this news, Lehman's shares declined 8.7% and continued to fall an additional 19.44% over the next two days. In addition, rating agencies Fitch and Moody's downgraded Lehman's credit rating." CalPERS Second Amended Complaint, ¶226.

[288] CalPERS also alleges that declines on June 10, 2008 and June 11, 2008 are related to the information released on June 9, 2008: "On this news, Lehman's shares declined 8.7% and continued to fall an additional 19.44% over the next two days." CalPERS Second Amended Complaint, ¶226. Lehman's stock declined 6.72% and 13.64% on June 10, 2008 and June 11, 2008, respectively. There is no basis to conclude that the stock price declines on these days are related to information released on June 9, 2008 and therefore I only address the information released on June 9, 2008. The residual decline on June 10, 2008 was 8.70%, which is statistically significant at the 95% confidence level and is therefore addressed in Appendix A. The residual decline on June 11, 2008 was 6.82% and is not statistically significant at the 95% confidence level.

10:22 AM, Fitch downgraded Lehman one notch to A+. Over the course of the day, many analysts issued reports interpreting Lehman's announced results.[289] I discuss each of these information releases in turn.

Lehman's Fiscal Q2 2008 Earnings Announcement

167. First, Lehman's announcement of financial results for fiscal Q2 2008 was not the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. As an initial matter, the risk of a loss in fiscal Q2 2008 was a known risk to market participants. For example, Credit Suisse noted on June 10, 2008 that several weeks prior it had "spoke[n] to the risks of Lehman realizing a 2Q loss but retaining too much real estate when [it] cut estimates," citing increased write-downs and ineffective hedges.[290] As such, the risk of Lehman reporting losses in fiscal Q2 2008 was known to market participants, and as shown below, the extent of that risk was not concealed by Lehman's financial reporting for Repo 105s.

168. In its earnings announcement, Lehman disclosed a net loss of $2.8 billion, which was driven by four items: (1) $3.6 billion in gross mark-to-market write-downs, (2) $700 million of hedging losses, (3) $500 million of principal losses, and (4) increased expenses (particularly compensation expenses). Equity analysts acknowledged that Lehman's "higher than expected losses" were driven by a combination of those four items.[291] Lehman attributed its announced mark-to-market adjustments for residential mortgage-related positions and commercial mortgage-related positions of $2.4 billion and $900 million, respectively, to the "continued challenging market conditions."[292] Merrill Lynch stated that the losses were higher than

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[289] Deutsche Bank and Citi issued reports during market hours. Buckingham Research, Fox-Pitt Kelton, J.P. Morgan, Morningstar, and UBS also issued analyst reports on June 9, 2008; however, the time of release is unknown.

[290] Credit Suisse, "Recalibrating Expectations," June 10, 2008, p. 1. *See also* Credit Suisse, "Reducing Estimates," May 21, 2008, p. 1 ("We're reducing our single point 2Q08 EPS estimate for Lehman to a <u>net loss of $0.60</u> from net positive earnings of $0.67…. What's driving this are incremental marks against the residential and commercial real estate exposures ($2.0-2.5Bn as compared to $4.7Bn gross in 1Q08), with that cost compounded by hedge ineffectiveness." (emphasis in original)).

[291] *See, e.g.*, The Buckingham Research Group, "Greater Than Expected Loss, But More Than in the Stock," June 9, 2008, p. 1 ("Driving the loss was higher-than-forecasted 'marks' on asset sales, poor hedging results, and higher comp."); Deutsche Bank, "2Q08 Earnings," June 9, 2008, p. 2 (citing "higher than expected losses ($4.9B vs. $2.9B) that consisted of $3.6B gross mark-to-market write-downs, $700 mil. of hedging losses (only 17% effective in residential mortgage vs. 70% past quarters), and $500 mil. of principal losses").

[292] Lehman MDL Exhibit 1891 (Lehman Brothers Q2 2008 Earnings Press Release, June 18, 2008, LBHI_DE_00005419–33).

anticipated "because markets continued to deteriorate," and that "[a]s long as the broad economy remains under pressure, the potential remains for losses and delinquencies on mortgage and credit assets to increase."[293] As discussed in Section VII.A, such a write-down was a known risk given the continued decline in real estate markets. The extent of this risk was not concealed by Lehman's financial reporting for Repo 105s.

169. Lehman's earnings announcement also indicated that hedging activity contributed to its losses during the quarter, rather than mitigating losses as hedging activities are intended to do. Equity analysts acknowledged that "hedges, which had offset 55-65% of marks over the past several quarters, actually contributed to losses this quarter,"[294] and that "[h]edges were largely ineffective this quarter and added $0.8B to F2Q losses."[295] One equity analyst attributed Lehman's reported net loss entirely to the ineffectiveness of its hedges, stating that "[t]his will be Lehman's first quarterly loss in the credit meltdown, ONLY because this is the first quarter that its hedges have failed to protect them."[296] The risk of increased losses due to hedge ineffectiveness was known to market participants,[297] and it was not concealed by Lehman's financial reporting for Repo 105s.

170. Lehman also announced that its net losses reflected principal trading losses and losses due to increased expenses. Equity analysts noted that principal losses contributed to higher-than-expected losses,[298] and that this was "well below forecast," indicating that "there's a risk there's been some compromise of franchise/client relationships in the de-leveraging process."[299] Equity analysts also noted that increased expenses contributed to the losses. For example, analysts stated that "[compensation expense] was up 26% from 1Q? (odd unless mostly severance)"[300] and that "[e]xpenses were relatively rigid, particularly in the personnel area, so

[293] Merrill Lynch, "Cutting ests after massive loss, but maintain Buy," June 10, 2008, p. 4.
[294] Merrill Lynch, "Cutting ests after massive loss, but maintain Buy," June 10, 2008, p. 4.
[295] J.P. Morgan, "$4.9B in Write-downs; Reality Bites," June 9, 2008, p. 1.
[296] Fox-Pitt Kelton Cochran Caronia Waller, "LEH: Raise and Write-Downs, But Not a 'Capitulation,'" June 9, 2008, p. 1 (emphasis in original).
[297] *See, e.g.*, Merrill Lynch, "Hedge reversal drag on 2Q, cutting ests," May 21, 2008, p. 1 ("Q2E lower on difficult environment and ineffective hedges"); Credit Suisse, "Reducing Estimates," May 21, 2008, p. 1 (Reducing estimates based on incremental write-downs "with that cost compounded by hedge ineffectiveness").
[298] Deutsche Bank, "2Q08 Earnings," June 9, 2008, p. 2.
[299] Credit Suisse, "Recalibrating Expectations," June 10, 2008, p. 2.
[300] UBS Investment Research, "Pre-Announcement & $6 Bn Capital Raise," June 9, 2008, p. 1.

operating leverage was meaningfully negative and contributed to the loss."[301] The risks of principal trading losses, including those attributable to compromised franchise/client relationships and increased expenses are distinct from and were not concealed by Lehman's financial reporting for Repo 105s.

Lehman's Capital Raise

171. In addition to its fiscal Q2 2008 results, Lehman announced it intended to raise capital of $4 billion in common stock and $2 billion in convertible preferred stock.[302] Lehman's announcement that it intended to raise capital also represented the materialization of a risk that was known and not concealed by Lehman's financial reporting for Repo 105s. As discussed in Section VII.B, the market was aware that Lehman might raise additional capital given expectations for large write-downs. The extent of this risk was not concealed by Lehman's financial reporting for Repo 105s.

Rating Agency Reports

172. Rating agencies also responded to Lehman's announcements. S&P noted that its ratings on Lehman "will not be affected by the firm's announcement of an expected $2.8 billion net loss for second-quarter 2008" because its "recent downgrade of Lehman integrated [its] expectation that the firm's second-quarter performance would meaningfully deteriorate."[303]

173. Moody's lowered its rating outlook from stable to negative. In its rationale for the outlook change, Moody's acknowledged that the loss "resulted from a combination of asset valuation marks and a sharp decline in hedge effectiveness, which had previously buffered Lehman's bottom line from material losses."[304] Moody's further stated that the "rating action also reflects Moody's concerns over risk management decisions that resulted in elevated real

[301] Merrill Lynch, "Cutting ests after massive loss, but maintain Buy," June 10, 2008, p. 4.

[302] "Lehman to Raise $6 Billion, Expects Big 2nd Quarter Loss," *Reuters News*, June 9, 2008, 8:45 AM.

[303] Standard & Poor's, "Lehman Brothers Holdings Inc. Rating Not Affected By Quarterly Loss," June 9, 2008, InreLehman-SP 0000379. Professor Chambers' conclusion that disclosure of Lehman's Repo 105s would not have altered Lehman's credit ratings is consistent with my view that S&P's ratings action on June 9, 2008 did not reflect the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s.

[304] Moody's Investors Service, "Moody's changes Lehman's rating outlook to negative," June 9, 2008. Professor Chambers' conclusion that disclosure of Lehman's Repo 105s would not have altered Lehman's credit ratings is consistent with my view that Moody's ratings action on June 9, 2008 did not reflect the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s.

estate exposures and the subsequent ineffectiveness of hedges to mitigate these exposures in the recent quarter."[305] Further, Moody's acknowledged that the losses stemmed from Lehman's significant and declining real estate concentrations, and that its significant exposures "remain a risk management challenge and continue to pose down-side risk to the firm."[306] Finally, Moody's indicated that the "negative outlook also reflects the risk that a more permanent solution to the inherent confidence sensitivity of the securities industry funding model may not be forthcoming."[307] As discussed in Section VII.A, the risk of negative rating agency actions as real estate markets continued to deteriorate and Lehman experienced additional write-downs was known to the market. The risk of future write-downs and continuing market declines also were known risks to the market. The extent of these risks, along with the additional risk of hedge ineffectiveness and the sensitivity of the securities industry to confidence cited by Moody's, were not concealed by Lehman's financial reporting for Repo 105s.

174. Fitch also downgraded Lehman's Issuer Default Ratings to A+ from AA-. Fitch downgraded Lehman and maintained negative outlook based on Lehman's earnings volatility, high exposure to risky assets, and the overall credit market downturn:

> Fitch's ratings action results from increased earnings volatility, changes in its business mix due to contraction in the securitization and structured credit markets and the level of risky assets exposing earnings to challenges in hedge effectiveness.…
>
> Lehman's Rating Outlook remains negative because profitability is expected to be challenged with continued fixed income volatility. Despite asset sales, Lehman's exposure to higher risk asset categories as a percent of Fitch core capital is higher than peers. Lehman's has been active hedging its exposure in these asset categories. However, its hedging strategy, while generally reducing earnings volatility, has not always been effective.[308]

As discussed in Section VII.A, the risk of negative ratings agency actions if real estate markets continued to deteriorate and Lehman experienced additional write-downs (i.e., earnings

[305] Moody's Investors Service, "Moody's changes Lehman's rating outlook to negative," June 9, 2008.
[306] Moody's Investors Service, "Moody's changes Lehman's rating outlook to negative," June 9, 2008.
[307] Moody's Investors Service, "Moody's changes Lehman's rating outlook to negative," June 9, 2008.
[308] Fitch Ratings, "Fitch Downgrades Lehman Brothers' L-T & S-T IDRs to 'A+/F1'; Outlook Negative," June 9, 2008.

volatility) was known to the market and was not concealed by Lehman's financial reporting for Repo 105s. Furthermore, the ineffectiveness of Lehman's hedges is distinct from Lehman's financial reporting for Repo 105s. Finally, Fitch's concerns about the effect of tightening credit markets on Lehman's core business and Lehman's exposure to higher risk assets were distinct from and not concealed by Lehman's financial reporting for Repo 105s.

(2) September 8, 2008

175. On Monday, September 8, 2008,[309] Lehman's stock price declined by 12.65% to close at $14.15, $2.05 below its previous closing price of $16.20. The residual decline on this day was $3.49, or 21.55%, which is statistically significant at the 99% confidence level. Exhibit 45.g contains an intraday price chart of Lehman's common stock on September 8, 2008, with annotations of select events.

176. Several pieces of potentially value-relevant information were released on this day and over the weekend preceding the market open on this day. Information that Royal Bank of Canada ("RBC") had considered acquiring Lehman in July, but later decided against it, was released over the weekend.[310] Also over the weekend, Lehman announced senior management changes.[311] Concerns that the South Korean government might block a potential sale of Lehman to Korea Development Bank ("KDB") were published over the weekend as well.[312] Prior to market open on September 8, 2008, equity analysts, including Oppenheimer and Merrill Lynch, reduced their earnings estimates for Lehman, in part because of expectations of larger write-

[309] September 8, 2008, is an alleged corrective disclosure day in the CalPERS and Starr actions, as shown in Exhibit 3. In its complaint, CalPERS alleges: "On September 8, 2008, Lehman announced that it would release its third quarter 2008 results and key strategic initiatives for the Company on September 18. Analysts at Bernstein Research and Oppenheimer predicted further write-downs in the third quarter of between $4 and $5 billion. In addition, there were market reports of Lehman's potential sale of assets to raise capital, that market commentators said smacked of desperation and indicated problems with Lehman's liquidity position. As a result of this news, Lehman's shares finished the trading day down 12.7%." CalPERS Second Amended Complaint, ¶227.

[310] "Royal Bank of Canada Considered Bidding for Lehman, FT Says," *Bloomberg News*, September 7, 2008, 4:56 PM.

[311] "Lehman Brothers Names Global Co-Heads of Fixed Income (Update1)," *Bloomberg News*, September 7, 2008, 4:48 PM.

[312] "KDB Should Consider Whether Lehman Bid 'Makes Sense,' Jun Says," *Bloomberg News*, September 7, 2008, 10:49 PM.

downs.[313] No value-relevant news was released after market open on September 8, 2008, before 11:00 AM, when a Bloomberg news article attributed the morning decline to a lack of news.[314] After 11:00 AM, there was renewed speculation that Lehman would sell its asset management unit.[315] Also, Lehman announced it would release its fiscal Q3 2008 results and key strategic initiatives on September 18, 2008.[316] I discuss each of the information releases in turn.

RBC's Decision To Not Acquire Lehman

177. The news regarding RBC's decision to not acquire Lehman in July 2008 did not represent the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. RBC explained that its reason for not pursuing a purchase of Lehman was that "it had doubts about Lehman's ability to shore up its balance sheet in the wake of the credit crisis," which is repeated in the fact that "Lehman is now under pressure to raise capital ahead of its earnings announcement."[317] News reports also noted that RBC was concerned "about what [it] would have to promise the Lehman people."[318] RBC's concerns about Lehman's balance sheet and the need to raise additional capital by Lehman were similar to the concerns expressed by other market participants as discussed in Sections VII.A and VII.B. This risk—and the fact that other entities (i.e., RBC) also were concerned about this risk—was not concealed by Lehman's financial reporting for Repo 105s.

Lehman's Announcement Of Senior Management Changes

178. Lehman's announcement of changes in senior management did not represent the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s.

[313] In addition, Bernstein Research also issued a report predicting greater write-downs. However, no time stamp is available for this report. Bernstein Research, "LEH: Analyzing the Firm's Shrinking Options…," September 8, 2008.

[314] "LEH: Lehman Brothers: CNBC commentator says that perhaps the stock…," *Briefing.com*, September 8, 2008, 11:01 AM ("CNBC commentator says that perhaps the stock is down because of the lack of news; says there is no news to speak of besides the constant rumors.").

[315] "LEH: Lehman Brothers: CNBC commentator says there is a growing…," *Briefing.com*, September 8, 2008, 11:46 AM ("CNBC commentator says there is a growing likelihood Neuberger Berman will be sold as LEH is having a hard time raising cash."),

[316] "Lehman Brothers to Host Conference Call Announcing Third Quarter Results," *PR Newswire (U.S.)*, September 8, 2008, 1:07 PM.

[317] "RBC pulled back from Lehman bid," *Financial Times*, September 7, 2008.

[318] "LEH: Lehman Brothers: Royal Bank of Canada pulled back from Lehman…," *Briefing.com*, September 8, 2008, 7:14 AM.

A Ladenburg Thalmann analyst report attributed the decline in Lehman's stock price on September 8, 2008 to this announcement and suggested it indicated "management turmoil":

> The stock fell sharply in price (13.2%) on Monday in an up market for financial stocks. The reason is that the company announced that it was making some changes in the management of two of its key divisions—investment banking and fixed income. These announcements suggested that the internal management turmoil in the company continues.[319]

News articles noted Lehman was shuffling management for the "third time in four months."[320] This announcement is distinct from, and was not concealed by, Lehman's financial reporting for Repo 105s.

South Korea's Possible Blockage Of KDB's Investment In Lehman

179. Information that the South Korean government might block a potential investment by KDB in Lehman was not the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. The South Korean government advised KDB to reconsider buying a stake in Lehman because of its own privatization efforts and economic uncertainties in the Korean market. South Korea's Financial Services Commission Chairman Jun Kwang Woo was quoted as saying:

> "The focus now should be on stabilizing the Korean markets," Jun [chairman of the Financial Services Commission in Korea] told lawmakers at a financial policy committee meeting in the National Assembly today. "I think it would be inappropriate for a state-owned company to pursue such an acquisition at this time, at least until the Korean government has completed finalizing its privatization plans for its holdings in financial institutions."[321]

This news is distinct from Lehman's financial reporting for Repo 105s. Furthermore, the risk that KDB would fail to reach a deal to purchase Lehman was known to the market prior to September 8, 2008. For example, prior to market open on September 5, 2008, *Reuters News*

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[319] Ladenburg Thalmann, "No Deal," September 9, 2008, p. 1.

[320] "Lehman Shuffles Top Management for Third Time in Four Months," *Bloomberg News*, September 8, 2008, 12:00 AM.

[321] "KDB Should Ask If Lehman Bid 'Makes Sense,' Jun Says (Update2)," *Bloomberg News*, September 8, 2008, 4:35 AM.

noted that "[a] wave of financial market turmoil that crashed into South Korea this week has made any deal between Korea Development Bank (KDB) and Lehman Brothers all the more difficult to pull off."[322] The article further highlights that "[g]overnment intervention is also a factor… [a]lthough KDB is in the process of privatising, state officials can still weigh in," and cited S&P's director of sovereign ratings as stating, "I don't think the government will be happy with this stake."[323] Therefore, this news reflects the materialization of a risk known to the market, and the extent of this risk was not concealed by Lehman's financial reporting for Repo 105s.

Changes In Analysts' Earnings Estimates For Lehman

180. The reductions in earnings estimates by equity analysts did not reflect the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. The decreases in earnings estimates were in part attributable to increased estimates of write-downs. However, as discussed in Section VII.A, the risk that Lehman faced additional write-downs as the real estate market continued to deteriorate was a known risk and it was not concealed by Lehman's financial reporting for Repo 105s. In fact, in the month prior to September 8, 2008, many analysts had already predicted increased write-downs:

- **August 14, 2008**: Bank of America estimated $4.5 billion in net write-downs, $4.3 billion of which was real estate and mortgage-related and $0.2 billion of which was leveraged lending.[324]
- **August 18, 2008**: J.P. Morgan estimated $4 billion in additional write-downs, "given the deterioration in resi and comm. related indices" and its belief that Lehman "has been selling assets especially in its comm. mortgage portfolio."[325]
- **August 27, 2008**: Morgan Stanley estimated net write-downs of $3.5 billion, with $3.2 billion of this amount being real estate and mortgage-related, although write-downs

[322] "ANALYSIS-Market turmoil adds hurdle to KDB-Lehman deal," *Reuters News*, September 5, 2008, 6:05 AM.
[323] "ANALYSIS-Market turmoil adds hurdle to KDB-Lehman deal," *Reuters News*, September 5, 2008, 6:05 AM.
[324] Bank of America, "Meeting with Mgmt; Lowering Numbers on De-Leveraging and Risk Exposure Reduction plus Choppy Environment; Maintain Neutral," August 14, 2008, p. 1.
[325] J.P. Morgan, "Expecting Another Quarterly Loss," August 18, 2008, p. 1.

"north of $7bn" are a risk, and included a stress test scenario showing write-downs of $11.1 billion.[326]

- **September 5, 2008**: Deutsche Bank estimated write-downs of $7 billion, reflecting "further quarter-end declines in residential real estate and our expectation that Lehman will offload a significant portion of its real estate."[327]

In addition, as discussed above, these estimates of write-downs were based on publicly available information. For example, Merrill Lynch attributed its increased write-down estimates of $7.1 billion on Lehman's $73 billion real estate–related and asset-backed portfolios to Lehman "selling big chunks of assets at a time when liquidity has deteriorated," noting that "[m]arket liquidity is very poor and as we speak to trading desks, we are told that any transaction in mortgage-related securities exceeding $100 million in value is subject to 'special' pricing and considerable liquidity haircuts."[328] Similarly, Oppenheimer attributed its increased write-down estimates to worsening market conditions, citing declines in the ABX, CMBX, and LCDX indices, as well as increases in credit rating downgrades on U.S. mortgage-related securities.[329] Hence, the reduction in earnings estimates did not represent the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s.

181. Further, in addition to noting increased write-downs, analysts also attributed decreased earnings estimates to a slowdown in Lehman's core business. The Oppenheimer report noted:

> We are lowering our 3Q08 EPS estimate to a loss of $2.70 from a gain of $0.23 (vs. consensus loss of $2.49) to incorporate the weak capital markets and estimated write-downs.… The primary drivers for these revisions are write-

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[326] Morgan Stanley, "Reducing 3Q EPS to Reflect Mortgage Marks, De-risking," August 27, 2008, pp. 1–2 ("Incremental write-downs may be needed to move a meaningful block of illiquid assets (beyond the ~$15bn reduction we expect in 3Q); however, we believe LEH has ample capital (Tier 1 capital ratio would still exceed 10% after a ~$10bn write-down). Yet we caution that rating agencies may be less charitable than regulators, as write-downs north of $7bn could require more equity to rebalance a higher preferred equity component in shareholders equity (currently 28%).").

[327] Deutsche Bank, "Govt GSE Action Can Help," September 5, 2008, p. 1. There is no time stamp available for this Deutsche Bank analyst report. If it was released after market close, any effect on Lehman's stock price of the report would be on the next trading day, September 8, 2008.

[328] Merrill Lynch, "Cutting forecasts on asset-sale scramble, capital raising," September 8, 2008, pp. 3–4.

[329] Oppenheimer, "LEH: Cutting Estimates," September 8, 2008, pp. 2–7.

> downs, customer volumes, overall weak global equity markets, and weak advisory and underwriting revenues.[330]

Information about future earnings from Lehman's core business is distinct from and was not concealed by Lehman's financial reporting for Repo 105s.

Speculation Regarding The Sale Of Neuberger Berman

182. There was renewed speculation on this day that Lehman would sell Neuberger Berman, its asset management unit, which further suggested that Lehman was facing capital and liquidity problems.[331] As discussed above, this was not the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. It was a known risk that Lehman would potentially need additional capital given the write-downs it faced as the real estate market continued to deteriorate. The existence and extent of this risk were not concealed by Lehman's financial reporting for Repo 105s.

(3) September 9, 2008

183. On Tuesday, September 9, 2008,[332] Lehman's stock price declined by 44.95% to close at $7.79, $6.36 below its previous closing price of $14.15. The residual decline on this day was $4.49, or 31.71%, which is statistically significant at the 99% confidence level. Exhibit 45.h contains an intraday price chart of Lehman's common stock on September 9, 2008, with annotations of select events.

184. Three pieces of potentially value-relevant information were released on this day. Before the market opened, there was speculation that talks with KDB on a possible capital infusion had failed.[333] Also before market open, a Ladenburg Thalmann analyst report increased loss

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[330] Oppenheimer, "LEH: Cutting Estimates," September 8, 2008, p. 1.

[331] "Update 3-Lehman tumbles after Neuberger news, loss forecast," *Reuters News,* September 8, 2008, 12:41 PM.

[332] September 9, 2008 is an alleged corrective disclosure day in the CalPERS, Starr, New Jersey, and San Mateo actions, as shown in Exhibit 3. In its complaint, CalPERS alleges: "On September 9, 2008, there were market reports that Lehman's attempts to obtain a capital infusion from the Korea Development Bank had failed, leading to concerns that 'no one will inject capital' into Lehman. In addition, S&P and Fitch both placed their ratings on Lehman on review for downgrade. S&P specifically cited concerns about Lehman's ability to raise capital. On this news, Lehman's shares declined 45% from the prior day's price to close at $7.79 per share." CalPERS Second Amended Complaint, ¶228.

[333] "Korean Regulator Denies Chairman Said KDB-Lehman Talks Ended," *Bloomberg News*, September 9, 2008.

estimates for Lehman for fiscal Q3 2008 and full year 2008.[334] At 2:00 PM, it was announced that S&P placed Lehman's ratings on review for downgrade.[335,336] I discuss each piece of information in turn.

Speculation That Talks With KDB Had Failed

185. The continued speculation that KDB would not invest in Lehman did not reflect the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. As discussed above, the stated reason why the transaction might fall through was based on KDB's own business plans, market conditions in South Korea, and the position of Korean government regulators. This news was neither related to nor concealed by Lehman's financial reporting for Repo 105s.[337]

Ladenburg Thalmann Report

186. The information contained in the Ladenburg Thalmann report issued on this day did not reflect the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. In its report, Ladenburg Thalmann increased its estimate of Lehman's loss because of weak overall market conditions affecting Lehman's core business:

> The third fiscal quarter loss estimate has been increased to $3.17 per share from an earlier loss estimate of $2.32 per share reflecting the unusually poor August experienced by the securities industry. The slight increase in the out year estimates reflects the potential impact of Treasury Department purchases of mortgage backed securities.[338]

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[334] The per-share loss estimates were increased from $2.32 to $3.17 and from $6.33 to $7.39 for fiscal Q3 2008 and fiscal year 2008, respectively. Ladenburg Thalmann, "No Deal," September 9, 2008, p. 1.

[335] "S&P Puts Lehman Bros Rtgs on Watch Neg After Share Price Falls," *Bloomberg News*, September 9, 2008, 2:00 PM.

[336] CalPERS also notes Fitch's announcement that it put Lehman on Rating Watch Negative. However, this was first announced at 7:32 PM, after market close. See Section VIII.A.1.b)(4) below for a discussion of this announcement.

[337] The continued speculation did not bring a definitive conclusion to the market with regard to whether the talks had ended or not. In fact, it was not until after market hours that KDB confirmed the failed discussion. "Update 3-S.Korea's KDB confirms talks with Lehman ended," *Reuters News*, September 9, 2008, 8:52 PM.

[338] Ladenburg Thalmann, "No Deal," September 9, 2008, p. 1.

Information about future earnings from Lehman's core business is neither related to nor concealed by its financial reporting Repo 105s.

187. The analyst also commented that Lehman's stock price was under pressure because of the lack of strategic action by Lehman. The analyst noted, "Lehman has failed to construct any positive deal concerning Neuberger Berman, its good bank/bad bank thesis, the sale of its commercial real estate properties, and or the adjustment in other asset values." The analyst stated that "the company does not believe that it has a serious balance sheet problem and it simply refuses to take what it believes are fire sale prices for its key assets."[339] A failure by Lehman to take strategic actions is distinct from and not the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s.

S&P's Placement Of Lehman On CreditWatch Negative

188. S&P's announcement that it placed Lehman's credit ratings on "CreditWatch with negative implications" was not the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. In S&P's announcement, it noted concerns about Lehman's ability to raise capital as well as expectations for a fiscal Q3 2008 loss because of weak overall market conditions affecting Lehman's core business and increased write-downs from deteriorating real estate markets:

> The CreditWatch listing stems from heightened uncertainty about Lehman's ability to raise additional capital, based on the precipitous decline in its share price in recent days. Lehman's capital ratios appeared adequate as of the May 31, 2008, end of its second quarter. However, we now believe that the company incurred a substantial net loss in the third quarter because of persisting difficult conditions in the investment-banking trading markets and write-downs from deteriorating market valuations of its mortgages and mortgage-related securities.[340]

Concerns about Lehman's ability to raise capital because of its declining stock price are distinct from Lehman's financial reporting for Repo 105s. As discussed above, Lehman's stock price

[339] Ladenburg Thalmann, "No Deal," September 9, 2008, p. 1.

[340] Standard & Poor's, "Lehman Brothers Ratings Placed on Watch Negative; Capital-Raising Uncertainty Cited," September 9, 2008. Professor Chambers' conclusion that disclosure of Lehman's Repo 105s would not have altered Lehman's credit ratings is consistent with my view that S&P's ratings action on September 9, 2008 did not reflect the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s.

was declining for several reasons distinct from its financial reporting for Repo 105s, including continued deterioration in real estate markets, expectations of higher write-downs, capital and liquidity concerns, and Lehman's inaction. In addition, S&P's expectation for weak results in Lehman's core business is also distinct from Lehman's financial reporting for Repo 105s. Moreover, S&P's expectation for increased write-downs was a known risk as the real estate market continued to deteriorate, and the extent of this risk was not concealed by Lehman's financial reporting for Repo 105s.

(4) September 10, 2008

189. On Wednesday, September 10, 2008,[341] Lehman's stock price declined by 6.93% to close at $7.25, $0.54 below its previous closing price of $7.79. The residual decline on this day was $0.38, or 4.86%, which is not statistically significant at the 95% confidence level. Exhibit 45.i contains an intraday price chart for Lehman's common stock on September 10, 2008, with annotations of select events.

190. Several pieces of potentially value-relevant information were released on this day. However, given the residual return is not statistically significant, there is no reliable basis to conclude that the information released on this day caused Lehman's stock price to decline. After market close on September 9, 2008, it was reported that Fitch placed Lehman's credit ratings on Rating Watch Negative and that KDB confirmed that talks with Lehman had ended.[342] Before the market opened, Lehman announced its preliminary earnings results for fiscal Q3 2008 and its new strategic plans. A conference call was subsequently held to discuss

[341] September 10, 2008 is an alleged corrective disclosure day in the CalPERS, Starr, New Jersey, and San Mateo actions, as shown in Exhibit 3. In its complaint, CalPERS alleges: "On September 10, 2008, Lehman reported a $3.9 billion loss for the third quarter of 2008, as well as $7 billion in gross write downs on its residential and commercial real estate holdings, despite having previously announced success with its delevering plan, its strong liquidity position, that it had risk management policies in place and that its assets had been fairly valued.… In addition, Fitch and Dunn & Bradstreet downgraded Lehman's credit rating. On this news Lehman's shares declined 7% from the prior day's close to $7.25 per share." CalPERS Second Amended Complaint, ¶229.

[342] "Fitch Places Lehman Brothers on Rating Watch Negative," *Business Wire*, September 9, 2008, 7:33 PM; "Korea Development Bank Says It Ended Talks With Lehman Brothers" *Bloomberg News*, September 10, 2008, 3:15 AM.

the results. At 3:26 PM, Moody's placed Lehman's credit ratings on review with direction uncertain.[343] I discuss each piece of information in turn.

Fitch's Placement Of Lehman On Rating Watch Negative

191. Fitch's announcement that it placed Lehman on Rating Watch Negative was not the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. Fitch placed Lehman's credit ratings on Rating Watch Negative "in light of heightened pressures that have adversely limited, in Fitch's view, Lehman's financial flexibility, most acutely, its ability to raise capital."[344] Fitch also cited that "[c]ore operating profitability is expected to be challenged in 2H08" and that "[t]rading volumes may contract for both institutional and retail investors."[345] As discussed above, limitations in Lehman's ability to raise capital because of its falling stock price are distinct from Lehman's financial reporting for Repo 105s. Also as discussed above, Lehman's stock price was declining for several reasons, none of which represented the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s.

Talks Between KDB And Lehman End

192. The news that talks between KDB and Lehman had ended did not represent the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. KDB explained its decision to end talks with Lehman regarding potential investments because of "a disagreement over conditions of a transaction and considering domestic and foreign financial market conditions."[346] This information is distinct from, and was neither directly nor indirectly concealed by, Lehman's financial reporting for Repo 105s.

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[343] Shortly before, at 3:18 PM, S&P confirmed Lehman remained on CreditWatch Negative. "S&P Says Lehman Rtgs Remain on Watch Neg Following 3rd-Qtr Loss," *Bloomberg News,* September 10, 2008, 3:18 PM.

[344] Fitch Ratings, "Fitch Places Lehman Brothers on Rating Watch Negative," September 9, 2008. Professor Chambers' conclusion that disclosure of Lehman's Repo 105s would not have altered Lehman's credit ratings is consistent with my view that Fitch's ratings action on September 9, 2008 did not reflect the materialization of a risk allegedly concealed by Lehman's financial reporting of Repo 105s.

[345] Fitch Ratings, "Fitch Places Lehman Brothers on Rating Watch Negative," September 9, 2008.

[346] "Update 3-S.Korea's KDB confirms talks with Lehman ended," *Reuters News*, September 9, 2008, 8:52 PM.

Lehman's Fiscal Q3 2008 Earnings Announcement

193. Lehman's announcement of financial results for fiscal Q3 2008 was not the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. The announced earnings loss was driven primarily by a $7.8 billion gross write-down ($5.6 billion net write-down). Lehman attributed the losses to "significant additional deterioration in the credit markets" and its decision "to more quickly exit the real estate positions."[347] As discussed in Section VII.A, write-downs were a known risk to market participants given the continued decline in real estate markets. In fact, as shown in Exhibit 33, Lehman's fiscal Q3 2008 write-down generally was in-line with analyst estimates, and lower than some analysts' estimates. The extent of this risk was not concealed by Lehman's financial reporting for Repo 105s.

Lehman's Strategic Actions

194. Lehman also announced "a comprehensive plan of initiatives to reduce dramatically the Firm's commercial real estate and residential mortgage exposure."[348] In addition to further commitments to sell residential and commercial assets, Lehman announced plans "to separate a vast majority of our commercial real estate assets from our core business by spinning off those assets to our shareholders and to an independent, publicly-traded entity which will be adequately capitalized."[349] Finally, Lehman also announced plans to "generate additional capital through the sale of a majority stake of the Investment Management Division and reduce the annual dividend, in order to maximize value for clients, shareholders and employees."[350] Lehman's announced decision to continue to significantly reduce its real estate positions was a known risk, and this risk was not concealed by Lehman's financial reporting for Repo 105s. Moreover, Lehman's announced plans to sell a majority stake in its investment management division and to reduce its annual dividend were neither related to nor concealed by its financial reporting for Repo 105s.

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[347] Q3 2008 Preliminary Lehman Brothers Holdings Inc. Earnings Conference Call, September 10, 2008.

[348] "Lehman Brothers Announces Preliminary Third Quarter Results and Strategic Restructuring," *PR Newswire*, September 10, 2008, 7:45 AM.

[349] Q3 2008 Preliminary Lehman Brothers Holdings Inc. Earnings Conference Call, September 10, 2008.

[350] "Lehman Brothers Announces Preliminary Third Quarter Results and Strategic Restructuring," *PR Newswire*, September 10, 2008, 7:45 AM.

Moody's Placement Of Lehman On Review With Direction Uncertain

195. Moody's announcement that it was placing Lehman on review with direction uncertain was not the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. Moody's explained that its decision reflected "the high degree of fluidity in Lehman's current situation" given that the company's "financial flexibility has become more limited as its stock price has fallen to near all-time lows and the firm is experiencing a crisis of confidence" as well as Moody's assessment of the likelihood of the sale of the firm. Moody's further stated that "should a strategic arrangement fail to materialize in the near term…the ratings would be downgraded."[351] The potential for Lehman to suffer a crisis in confidence—and the resulting liquidity constraints and inability to raise capital—if market conditions continued to deteriorate was a known risk as discussed in Section VII.B. This risk and the risk of a credit rating downgrade were not concealed by Lehman's financial reporting for Repo 105s.

(5) September 15, 2008

196. On Monday, September 15, 2008[352] Lehman's stock price declined by 94.25% to close at \$0.21, \$3.44 below its previous closing price of \$3.65. The residual decline on this day was \$2.67, or 73.07%, which is statistically significant at the 99% confidence level. Exhibit 45.l contains an intraday price chart of Lehman's common stock on September 15, 2008, with annotations of select events.

197. The value-relevant information released on this day was Lehman's bankruptcy filing. Prior to market open, Lehman announced its intent to file for bankruptcy.

198. Lehman's bankruptcy filing was not the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. It was in part the materialization of risks concerning Lehman's asset quality and the deteriorating real estate and credit markets, and the

[351] Moody's Investors Service, "Moody's places Lehman's A2 rating on review with direction uncertain," September 10, 2008, p. 1. Professor Chambers' conclusion that disclosure of Lehman's Repo 105s would not have altered Lehman's credit ratings is consistent with my view that Moody's ratings action on September 10, 2008 did not reflect the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s.

[352] September 15, 2008 is an alleged corrective disclosure day in the CalPERS, Starr, New Jersey, and San Mateo actions, as shown in Exhibit 3. In its complaint, CalPERS alleges: "On September 15, 2008, Lehman filed for bankruptcy protection because it had 'significant liquidity problems.' As a result, Lehman's shares declined over 94% on that date." CalPERS Second Amended Complaint, ¶230.

implications of both for Lehman's liquidity. However, it also reflected a generally unanticipated and unforeseen outcome of the materialization of another risk—namely, the risk that Lehman would not receive government assistance or be acquired by another company.

199. Leading up to Lehman's bankruptcy, market participants had expressed concern that the deteriorating market conditions could result in Lehman suffering a crisis in confidence and liquidity issues:

> [T]he troubles at Lehman had been well known for some time, and investors clearly recognized–as evidenced, for example, by the high cost of insuring Lehman's debt in the market for credit default swaps–that the failure of the firm was a significant possibility.[353]

> Fed Vice Chairman Donald Kohn told Bernanke that in the wake of Bear's collapse, some institutional investors believed it was a matter not of *whether* Lehman would fail, but *when*.[354]

> Lehman was also hit by speculation that some of its biggest customers had ceased doing business with the firm, which the clients denied. "Constant pounding of the company's stock with one rumor after another may eventually get to the business," said Richard Bove, an analyst at Ladenburg Thalmann & Co. "After a while, people might start worrying about doing business with Lehman. It seems there's a concentrated effort to break Lehman."[355]

> We continue to believe that the decline in Lehman's stock has little to do with the company's liquidity and balance sheet, but is more based on investors' pricing in the probability of a Bear Stearns-like run-on-the-bank. Meanwhile, we believe there is increasing danger that counterparties, creditors, and customers will be spooked by the stock's action, thus completing the vicious cycle of a self-fulfilling prophecy.[356]

> We believe a key question for investors is not the size of the write-down, but how remaining illiquid asset exposure squares with capital cushion. This will reflect action by LEH to restore confidence in balance sheet marks and its capital

[353] Testimony of Chairman Ben S. Bernanke, U.S. Financial Markets, Before the Committee on Banking, Housing, and Urban Affairs, U.S. Senate, September 23, 2008.

[354] Financial Crisis Inquiry Commission Report, Chapter 18, p. 325 (emphasis in original).

[355] "Lehman Shares Sink as Fannie, Freddie Plunge Further (Update3)," *Bloomberg News*, July 10, 2008 4:35 PM.

[356] Fox-Pitt Kelton Cochran Caronia Waller, "Going Private May Be the Best Course of Action," July 14, 2008, p. 1.

> position (e.g., potential stake sale, 3rd party venture to manage portfolio). Otherwise, franchise erosion is a real risk.[357]

> The risk to LEH shares: (a) fear-mongering somehow returns and a panic ensues before Lehman gets to announce its 3Q08 result in mid-Sept (ala Bear); or (b) the company's 3Q08 fortunes change and it produces another relatively large loss for the quarter.[358]

The Examiner also noted that Lehman's collapse was not unanticipated:

> Lehman's collapse was not unanticipated. After Bear Stearns – a firm whose business model was nearly identical to Lehman's – almost collapsed, the SEC and the FRBNY assigned dedicated teams to Lehman to monitor its affairs in real time.[359]

200. However, market participants generally did not anticipate the complete failure of Lehman and its filing for bankruptcy as a result of a crisis in confidence. Market participants generally expected the government to assist in a takeover of Lehman and/or a strategic acquirer to acquire Lehman. As late as September 2008, market participants acknowledged that Lehman may have required an entire firm sale, either in conjunction with a strategic partner or in a hostile takeover:

> There has been endless debate over whether it will sell its Asset Management business in order to generate needed capital, or whether it will seek to sell itself or to raise capital via a strategic partner.[360]

> OPTION 1: …we believe an MBO/going-private transaction is feasible, and while not ideal, would be preferable to Bear's fate… OPTION 2: Mgmt may sell to a strategic buyer (a private equity deal would represent the going-private scenario above), but such a buyer would hold all the cards; we believe Lehman insiders would pay more (in an MBO).[361]

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[357] Morgan Stanley, "Reducing 3Q EPS to Reflect Mortgage Marks, De-risking," August 27, 2008, p. 1

[358] Fox-Pitt Kelton Cochran Caronia Waller, "Selling Neuberger Could Be Part of MBO/Going-Private," July 25, 2008, p. 5.

[359] Statement by Anton Valukas, Examiner, Lehman Brothers Bankruptcy before the Committee on Financial Services United States House of Representatives regarding "Public Policy Issues Raised by the Report of the Lehman Bankruptcy Examiner," April 20, 2010, p. 12.

[360] Merrill Lynch, "Cutting forecasts on asset-sale scramble, capital raising," September 8, 2008, p. 3.

[361] Fox-Pitt Kelton Cochran Caronia Waller, "Final Options For Saving the Company," September 9, 2008, p. 1.

> I continue to believe that the only rational result is a hostile takeover.[362]

> It is increasingly evident that outside intervention in the form of a hostile takeover is a necessity.[363]

> Market speculation continues to centre around Bank of America (unrated) as the most likely buyer of the bulk of the Lehman business, following perhaps a government-sponsored hiving off of the highest-risk assets (eg much of the commercial real estate) into a separate entity or 'bad' bank and the provision of put options on certain remaining assets.[364]

201. Even if Lehman was not acquired by another company in either a strategic or hostile takeover, it was widely believed that a Bear Stearns–like government-assisted takeover was likely. For example, Fox-Pitt Kelton noted that Lehman management "now may have to act quickly to avoid a panic, and a subsequent Bear Stearns-like fate."[365] Bank of America analysts stated that Lehman's situation was "very binary, with a worst case scenario including a BSC type of bail-out/outright sale."[366]

202. Despite acknowledging that a Bear Stearns–like government-assisted bailout was the worst-case scenario, market participants widely believe through September 11, 2008 that the liquidity provided by the PDCF mitigated the likelihood of such a worst-case scenario. For example, Citi stated it "[doesn't] see any potential liquidity issues with the Fed backstop in place."[367] Goldman Sachs concluded that "liquidity issues are unlikely to impact Lehman Brothers as they did Bear Stearns given the implementation of the Fed liquidity facilities (specifically the PDCF)."[368]

203. Therefore, although Lehman's collapse reflected the materialization of a known risk of market declines and a resulting liquidity crisis, the ultimate outcome of bankruptcy for Lehman was not foreseen. The potential for Lehman to succumb to a liquidity crisis was well known

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[362] Ladenburg Thalmann, "No Deal," September 9, 2008, p. 1.
[363] Ladenburg Thalmann, "Lehman's Non-Strategy," September 11, 2008, p. 1.
[364] HSBC Global Research, "The end-game. Removing Neutral (V) rating and target price and placing both under review," September 12, 2008, p. 1.
[365] Fox-Pitt Kelton Cochran Caronia Waller, "Final Options For Saving the Company," September 9, 2008, p. 1.
[366] Bank of America, "Between Scylla & Charybdis; Discounting the Tough Options for Lehman From Here, Cutting Numbers & Target & Maintain Neutral," September 9, 2008, p. 1.
[367] Citi, "Perception Trumps Fundamentals For Now, Downgrading To Hold," September 11, 2008, p. 1.
[368] Goldman Sachs, "Uncertainty remains; removing from Americas Buy List," September 11, 2008, p. 3.

and its liquidity risk was not concealed by Lehman's financial reporting for Repo 105s, as discussed in Section VII.B. Lehman's filing for bankruptcy (as opposed to receiving government assistance and/or undergoing a strategic takeover) was not a foreseeable consequence of a liquidity crisis, and would not have been any more foreseeable if there had been a disclosure of Lehman's Repo 105s. Market participants generally believed that Lehman was "too big to fail," and disclosure of Lehman's Repo 105s would not have altered this belief.

2. Section 11 Claims Regarding Common Stock

204. CalPERS asserts Section 11 claims related to its purchase of common stock pursuant to Lehman's June 9, 2008 seasoned equity offering.

205. I understand that the statutory measure of damages for a Section 11 claim is the difference between the amount paid for the security (not to exceed the offering price) and (1) the price of the security at the time of suit or (2) the price at which the security was sold prior to suit; or (3) the price at which the security was sold post-suit but pre-judgment if those damages are less than (1).[369] I further understand that liability may be limited under Section 11 if the defendant can establish that the decline in the value of the security cannot be attributed to the alleged misstatements or omissions in the registration statement, but instead is attributable to other factors.[370]

206. CalPERS alleges that risks concealed by Lehman's financial reporting for Repo 105s materialized to the market in a series of announcements on June 9, 2008, September 8, 2008, September 9, 2008, September 10, 2008, and September 15, 2008. Section VIII.A.1.b) contains my analysis of the information released on these days and the basis for my opinion that none of

[369] "The suit authorized under subsection (a) of this section may be to recover such damages as shall represent the difference between the amount paid for the security (not exceeding the price at which the security was offered to the public) and (1) the value thereof as of the time such suit was brought, or (2) the price at which such security shall have been disposed of in the market before suit, or (3) the price at which such security shall have been disposed of after suit but before judgment if such damages shall be less than the damages representing the difference between the amount paid for the security (not exceeding the price at which the security was offered to the public) and the value thereof as of the time such suit was brought." 15 U.S.C. § 77k(e).

[370] "Provided, that if the defendant proves that any portion or all of such damages represents other than the depreciation in value of such security resulting from such part of the registration statement, with respect to which his liability is asserted, not being true or omitting to state a material fact required to be stated therein or necessary to make the statements therein not misleading, such portion of or all such damages shall not be recoverable." 15 U.S.C. § 77k(e).

the losses incurred by CalPERS with regard to Lehman's common stock on these days were caused by the alleged misrepresentations.

207. Setting aside that CalPERS makes no claims that risks concealed by Lehman's financial reporting for Repo 105s materialized on any other day, the only days between June 9, 2008 and Lehman's bankruptcy for which one could reliably conclude that Lehman-specific information caused declines in its stock price are days on which Lehman's residual returns are statistically significant. If a stock price decline is not statistically significant, there is no reliable basis to conclude that the decline is caused by Lehman-specific information as opposed to market-wide factors, industry-wide factors, and normal fluctuations or "noise" in Lehman's stock price. The days on which there were statistically significant declines in Lehman's stock price during the period June 9, 2008 through September 15, 2008, other than the corrective disclosure days alleged by CalPERS, are June 10, 2008, June 12, 2008, July 10, 2008, July 11, 2008, September 11, 2008, and September 12, 2008. Section VIII.C.1 and Appendix A contain an analysis of all potentially value-relevant information on these days. I find that the information released on these days did not include information that reflected the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s.[371] Therefore, none of the declines in the price of Lehman's common stock were caused by the alleged misrepresentations. Because there is no loss causation, there are no damages associated with CalPERS' Section 11 claims involving Lehman's common stock.

3. Section 11 Claims Regarding Bonds

208. CalPERS asserts Section 11 claims related to its May 2, 2008 investment in Lehman's 7.50% notes due 2038. I understand from counsel that Section 11 claims for CalPERS' holdings of five other Lehman bonds are time-barred; however, CalPERS' other claims related to those bonds remain. Therefore, I conduct my analysis for all of the Lehman bonds purchased by CalPERS for which CalPERS claimed loss in its complaint.

[371] As discussed in the following section, I also analyzed all potentially value-relevant information on days that did not have statistically significant stock price declines. I find that the information released on these days was also a combination of (1) information distinct from Lehman's financial reporting for Repo 105s and (2) materializations of risks concerning Lehman's asset quality and the deteriorating real estate market, and the implications of both for Lehman's liquidity, none of which were concealed by Lehman's financial reporting for Repo 105s.

209. As discussed in Section VIII.A.1, CalPERS alleges that risks concealed by Lehman's financial reporting for Repo 105s materialized and were revealed to the market in a series of announcements on June 9, 2008, September 8, 2008, September 9, 2008, September 10, 2008, and September 15, 2008. Section VIII.A.1.b) provides my analysis of the information released on these days. Also, Exhibit 46 provides the changes in Lehman's bond prices on each of the corrective disclosure days alleged by CalPERS. The exhibit demonstrates that certain bonds alleged by CalPERS have price increases on select alleged corrective disclosure days.

210. Setting aside that CalPERS makes no claims that risks concealed by Lehman's financial reporting for Repo 105s materialized on any days other than the alleged corrective disclosure days, I reviewed information about Lehman that was released on every day between the date of CalPERS' initial purchase at issue on July 19, 2007 and Lehman's bankruptcy filing on September 15, 2008.[372] The information reviewed is contained in Appendix B. As with the information released on the alleged corrective disclosure days, and consistent with the fact that CalPERS has not made any allegations about the information released on these days, I find that no information released between July 19, 2007 and September 15, 2008 reflected the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. Therefore, none of the declines in the prices of Lehman's bonds during this time period were caused by the alleged misrepresentations. Because there is no loss causation, there are no damages associated with CalPERS' Section 11 claims involving Lehman's bonds.

B. Starr Action: There Is No Loss Causation And No Damages Associated With The Rule 10b-5 Claims Or Section 11 Claims Regarding Common Stock And Preferred Stock

211. For its Rule 10b-5 claims regarding Lehman's common stock and preferred stock, none of the losses suffered by Starr on its investments in Lehman's common stock or preferred stock that occurred on the alleged corrective disclosure dates were caused by the materialization of risks allegedly concealed by Lehman's financial reporting for Repo 105s. As shown in

[372] I also prepared a regression analysis in an effort to conduct an event study to identify bond price declines on days other than CalPERS' alleged corrective disclosure days that could reliably be identified as related to Lehman-specific news. I regressed the returns for each of the six bonds at issue against a market index that matched the maturity of the bond over the period March 25, 2008 to September 5, 2008. Results of the regression analysis are shown in Exhibit 47.

Exhibit 3, Starr alleged the following corrective disclosure days, each of which has been addressed in Section VIII.A.1.b): June 9, 2008, September 8, 2008, September 9, 2008, September 10, 2008, and September 15, 2008. Because there is no loss causation on these days, there are no damages associated with Starr's 10b-5 claims involving Lehman's common stock or preferred stock.

212. For its Section 11 claims regarding common stock, no information that was released to the market during June 9, 2008 through September 15, 2008 reflected the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. Therefore, declines in Lehman's common stock price during this period were not caused by the alleged misrepresentations. Section VIII.A.2 provides my analysis of Section 11 claims for common stock purchased pursuant to Lehman's June 9, 2008 offering. Because there is no loss causation on any of these days, there are no damages associated with Starr's Section 11 claims involving Lehman's common stock.

213. For its Section 11 claims regarding preferred stock, none of the losses suffered by Starr were caused by the alleged misrepresentations. I analyzed information about Lehman that was released from the date of Starr's first purchase at issue under Section 11 on June 9, 2008 through Lehman's bankruptcy filing on September 15, 2008. I find that no information released during this period reflected the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. Because there is no loss causation, there are no damages associated with Starr's claims involving Lehman's preferred stock.

1. Section 11 Claims Regarding Preferred Stock

214. Starr is asserting Section 11 claims related to its June 9, 2008 investment in Lehman's preferred stock.[373]

215. Starr alleges that risks concealed by Lehman's financial reporting for Repo 105s materialized and were revealed to the market in a series of announcements on June 9, 2008, September 8, 2008, September 9, 2008, September 10, 2008, and September 15, 2008.

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[373] Preferred stock is a form of hybrid security that has a higher residual claim than common stock but a lower residual claim than bonds. Preferred stock also typically has fixed dividend payouts, similar to bonds, but generally does not repay principal at a specified date of maturity. As a result, preferred stock has both common stock and bond characteristics. *See, e.g.*, Stephen A. Ross, Randolph W. Westerfield, and Jeffrey Jaffe, *Corporate Finance*, 8th ed. (New York: McGraw-Hill, 2008), 413–415.

Section VIII.A.1.b) provides my analysis of the information released on these days. Also, Exhibit 48 provides the changes in the price of Lehman's preferred stock on each of Starr's alleged corrective disclosure days.

216. Setting aside that Starr makes no claims that risks concealed by Lehman's financial reporting for Repo 105s materialized on days other than these alleged corrective disclosure days, I reviewed information that was released about Lehman for every day between Starr's initial purchase at issue on June 9, 2008 and Lehman's bankruptcy filing on September 15, 2008.[374] The information reviewed is contained in Appendix B. As with the information released on the alleged corrective disclosure days, and consistent with the fact that Starr has not made any allegations about the information released on these days, I find that no information released between June 9, 2008 and September 15, 2008 reflected the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. Therefore, none of the declines in Lehman's preferred stock price during this period were caused by the alleged misrepresentations. Because there is no loss causation, there are no damages associated with Starr's Section 11 claims involving Lehman's preferred stock.

C. New Jersey Action: There Is No Loss Causation And No Damages Associated With The Section 11 Claims Regarding Common Stock, Preferred Stock, And Bonds

217. New Jersey does not make Rule 10b-5 claims regarding its purchases of Lehman securities. However, New Jersey does provide a "Loss Causation" section in its complaint, where it alleges that "artificial inflation was removed through a series of partial disclosures of the truth and materialization of previously concealed risks."[375] None of the losses suffered by New Jersey on its investments in Lehman securities that occurred on the alleged corrective disclosure dates were caused by the alleged misrepresentations—no information that was released on any of these days reflected the materialization of a risk allegedly concealed by

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[374] I also prepared a regression analysis in an effort to conduct an event study to identify preferred stock price declines on days other than Starr's alleged corrective disclosure days that could reliably be identified as related to Lehman-specific news. I regressed the returns for the preferred stock at issue against a market index over the period March 25, 2008 to September 5, 2008. Results of the regression analysis are shown in Exhibit 49.

[375] New Jersey Second Amended Complaint, ¶335.

Lehman's financial reporting for Repo 105s. Sections VIII.A.1.b) and VIII.C.1 discuss my event study analysis and loss causation analysis for these alleged corrective disclosure days.

218. For its Section 11 claims regarding common and preferred stock issued on June 9, 2008, no information about Lehman was released during the period June 9, 2008 through September 15, 2008 that reflected the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. Therefore, none of the declines in Lehman's common and preferred stock prices during this period were caused by the alleged misrepresentations.

Sections VIII.A.2 and VIII.B.1 provide my analysis and discussion of Section 11 claims for purchases of Lehman's common and preferred stock pursuant to Lehman's June 9, 2008 offering.

219. For its Section 11 claims regarding Lehman's preferred stock issued April 1, 2008 and Lehman's bonds, none of the losses suffered by New Jersey were caused by the alleged misrepresentations. I analyzed information about Lehman that was released during the period from the date of New Jersey's first purchase at issue under Section 11 on January 15, 2008 through Lehman's bankruptcy filing on September 15, 2008. I find that no information was released during this period that reflected the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. Because there is no loss causation, there are no damages associated with New Jersey's Section 11 claims involving Lehman's preferred stock issued April 1, 2008 and bonds.

1. Analysis Of Alleged Corrective Disclosures

220. New Jersey alleges that the "artificial inflation was removed through a series of partial disclosures of the truth and the materialization of previously concealed risks" in announcements on June 9, 2008, July 10, 2008, July 25, 2008, September 9, 2008, September 10, 2008, and September 15, 2008.

221. In New Jersey's complaint, it recites various events that occurred on each of the alleged corrective disclosure days along with a general allegation that "[t]he disclosures regarding Lehman's liquidity problems and massive write-downs revealed the truth about Lehman's

financial condition and represented the materialization of several interrelated, concealed risks."[376] It continues:

> The materialization stemmed from, *inter alia*, Lehman's massive Repo 105 transactions which masked the Company's true net leverage, Lehman's failure to write down its real estate assets in a timely manner, and Lehman's disregard for its risk management policies. As a direct result of Lehman's failure to abide by its risk policies, Lehman acquired tens of billions of dollars of highly risky, illiquid assets that ultimately required enormous write-downs and triggered the liquidity crisis that ended Lehman's existence. Lehman engaged in tens of billions of dollars worth of Repo 105 transactions in order to temporarily remove assets from its balance sheet solely for reporting purposes. Through these transactions, Lehman artificially reduced its net leverage ratio and created the false appearance that Lehman was more capitalized and liquid that [*sic*] it really was.[377]

222. For the New Jersey action, I have conducted the same analysis that I have conducted for part of the CalPERS action. I have used the results of my common stock event study analysis as discussed in Section VIII.A.1.a). I also have considered all potentially value-relevant information about Lehman that was released on these days and provided an assessment of whether the information released reflects the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. None of the information released on these days reflected the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. Hence, none of the declines in Lehman's securities prices on these days were caused by the alleged misrepresentations. Because there is no loss causation on these days, there are no damages associated with New Jersey's claims involving Lehman's securities on these days.

223. In this section, I analyze July 10, 2008, July 11, 2008, and July 25, 2008, the only alleged corrective disclosure days in the New Jersey action that were not alleged in the CalPERS action. My analysis of the other days is contained in Section VIII.A.1.b).

[376] New Jersey Second Amended Complaint, ¶343.

[377] New Jersey Second Amended Complaint, ¶343.

a) July 10, 2008

224. On Thursday, July 10, 2008,[378] Lehman's stock price declined by $2.44, or 12.36%, from its previous closing price to end at $17.30. The residual decline on this day was $1.95, or 9.86%, which is statistically significant at the 99% confidence level. Exhibit 45.d contains an intraday price chart of Lehman's common stock on July 10, 2008, with annotations of select events.

225. Three pieces of potentially value-relevant information were released on this day. At 10:28 AM, Lehman bonds, along with Morgan Stanley bonds, were downgraded to "deteriorating" from "stable" by Gimme Credit LLC ("Gimme Credit"), a bond research firm in Chicago. Shortly thereafter, a report released at 10:38 AM noted Lehman's declining share price as the stock prices of Fannie Mae and Freddie Mac had each fallen by more than 20% over the previous two days. During trading hours, there were rumors regarding counterparty withdrawals from Lehman, and PIMCO and SAC each confirmed that they would continue to trade with Lehman.

226. First, Gimme Credit's downgrade of Lehman was a result of additional expected write-downs at Lehman given the continued market deterioration. Gimme Credit also expressed concern about how long the Federal Reserve would support the investment banks:

> Lehman Brothers Holdings Inc. and Morgan Stanley bonds were lowered to "deteriorating" from "stable" by Gimme Credit LLC because the investment banks are likely to report additional losses in the third quarter. "The continuing turmoil in financial markets suggest that Lehman and Morgan Stanley are likely to incur mark-to-market losses on positions within their portfolios in the third fiscal quarter," Kathleen Shanley, an analyst at bond research firm Gimme Credit in Chicago, said in a report dated today…. "The Federal Reserve has signaled it won't withdraw liquidity support from the major investment banks in the near-

[378] July 10, 2008 is an alleged corrective disclosure day in the New Jersey and San Mateo actions, as shown in Exhibit 3. In its complaint, New Jersey alleges: "On July 10, 2008, Lehman filed its second quarter 2008 Form 10-Q. In addition to the information disclosed in its June 9, 2008 press release and conference call, the Form 10-Q indicated that Lehman's most illiquid assets (Level 3 assets), which had no direct observable market value, declined only slightly in the second quarter to $41.3 billion from $42 billion at year end 2007. Total assets declined by 8%. Investors were expecting a larger decline in Lehman's assets, as Lehman previously conveyed that it was reducing its real estate-related assets by writing down and/or selling risky assets. The market price of Lehman's common stock closed that day at $17.30 per share, a 12% drop from the prior trading day close of $19.74. It fell another 16% the following day, to $14.43. The market price of the Series P and Series Q preferred stock that Plaintiff held declined by 10% and 14%, respectively, on July 10, 2008, and continued to fall an additional 11% and 13%, respectively, on July 11, 2008." New Jersey Second Amended Complaint, ¶337.

> term, but there is no guarantee such support will be permanent," Shanley said in the report. "Regulators aren't anxious to remain in the bailout business permanently."[379]

227. As discussed in Section VII.A, investors were aware of the troubled financial markets and the risk of future write-downs. In addition, the risk of future write-downs was not concealed by Lehman's financial reporting for Repo 105s because investors were focused on write-downs of assets other than the types generally used in Repo 105s. Gimme Credit's concerns regarding long-term support from the Federal Reserve stemmed from a lack of guaranteed future liquidity for Lehman was not new information to the market. Also, as mentioned in Section VII.B, the market would not have perceived incremental liquidity risk for Lehman, or held a different belief about the likelihood or duration of Federal Reserve support, if there had been a disclosure of Lehman's Repo 105s. Accordingly, Gimme Credit's downgrade did not reflect the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s.

228. Second, the report that Lehman's common stock was headed for its largest weekly decline in 14 years as the stock prices of Fannie Mae and Freddie Mac each declined by more than 20% was the materialization of a known market risk, the extent of which was not concealed by Lehman's financial reporting for Repo 105s. As explained by *Bloomberg News*:

> Financial stocks have declined this week on speculation government-backed mortgage companies Fannie Mae and Freddie Mac will need to raise more capital to withstand the credit contraction that has saddled banks and brokerages with more than $408 billion of writedowns and losses.[380]

Analysts noted that "Fannie and Freddie's demise mean the investment banks can't do any more securitization for a while,"[381] indicating that the failure of Fannie Mae and Freddie Mac had implications for Lehman's revenue-generating activities. The increased risk that Fannie Mae and Freddie Mac could fail, and the implications for Lehman's future business, did not reflect the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s.

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[379] "Lehman, Morgan Stanley Cut to 'Deteriorating' by Gimme Credit," *Bloomberg News*, July 10, 2008, 11:38 AM.
[380] "Lehman Shares Sink as Fannie, Freddie Plunge for Second Day," *Bloomberg News*, July 10, 2008, 10:38 AM.
[381] "Lehman Leads Investment Banks Lower on Fannie, Freddie Concern," *Bloomberg News*, July 11, 2008, 10:03 AM.

b) July 11, 2008

229. On Friday, July 11, 2008,[382] Lehman's stock price declined by $2.87, or 16.59%, from its previous closing price to end at $14.43. The residual decline on this day was $1.91, or 11.06%, which is statistically significant at the 99% confidence level. Exhibit 45.e contains an intraday price chart of Lehman's common stock on July 11, 2008, with annotations of select events.

230. Several pieces of potentially value-relevant information affecting Lehman's stock price were released on July 11, 2008. The first was Lehman's 10-Q filing for fiscal Q2 2008 after market hours on the previous day.[383] At 10:46 AM, based on information in Lehman's 10-Q filing, the Associated Press reported that Lehman's hard-to-value assets as a percentage of overall assets had grown and that a significant portion of Level III assets were mortgage and asset-backed securities. Over the course of the day, many analysts issued reports interpreting Lehman's 10-Q filing. Market commentary also attributed the decline in Lehman's stock price to continued distress in financial markets, citing persistent rumors about Lehman's counterparties and fears that the U.S. housing crisis would result in the demise of Freddie Mac and Fannie Mae.[384] Bloomberg also reported at 12:48 PM on S&P's belief that Lehman's record share price decline had not damaged the firm's liquidity, funding, or client business. I discuss each piece of information in turn.

231. First, the information revealed in Lehman's 10-Q filing for fiscal Q2 2008 did not reflect the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. Much of Lehman's fiscal Q2 2008 financial results had been disclosed previously on June 9, 2008 and June 16, 2008. For example, a Morgan Stanley analyst report noted that "[t]he 10-Q was largely in line with 2Q EPS results and corresponding conference call commentary."[385] Keefe, Bruyette & Woods stated that "much of the data was disclosed on June 16, 2008,"[386] and

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[382] Lehman released its fiscal Q2 2008 10-Q after market hours on July 10, 2008. Therefore, although July 10, 2008 is the alleged corrective disclosure day in the New Jersey and San Mateo actions as shown in Exhibit 3, July 11, 2008, is the date that Lehman's stock price would have reacted to this information. "Lehman Brothers Holdings Files 10Q," *Dow Jones Corporate Filings Alert*, July 10, 2008, 4:54 PM.

[383] "Lehman Brothers Holdings Files 10Q," *Dow Jones Corporate Filings Alert*, July 10, 2008, 4:54 PM.

[384] "UPDATE 1-Lehman shares plunge amid market distress," *Reuters News*, July 11, 2008, 3:46 PM. This article also notes that "[i]t is extremely difficult to know the market value of the mortgages, real estate, and related securities that are valued on Lehman's books at around $60 billion, experts said."

[385] Morgan Stanley, "Heightened Market Concerns but Fundamentals Intact," July 14, 2008, p. 3.

[386] Keefe, Bruyette & Woods, "LEH: Lehman Brothers: 2Q08 First Glance 10-Q Overview," July 11, 2008, p. 1.

Fox-Pitt Kelton stated that there were "no significant implications to [its] ests or price targets from the 10Qs."[387]

232. One piece of new information contained in Lehman's 10-Q about which there was market commentary on this day was Lehman's Level III asset disclosure, which was not previously disclosed in Lehman's June 2008 earnings press release or earnings conference call (Lehman had estimated its Level III assets to be approximately $38 billion during its June 2008 earnings conference call).[388] Although market commentary noted that Lehman's Level III assets declined 2.7%, from $42.5 billion at quarter end for fiscal Q1 2008 to $41.3 billion at quarter end for fiscal Q2 2008,[389] other market participants reported that Lehman's hard-to-value assets made up a higher percentage of overall assets.[390] However, 99% of Repo 105s were rated Level I or Level II in fiscal Q2 2008 and were generally of very high quality. Therefore, adjusting for the assets used in Repo 105s, Lehman's Level III assets as a percentage of total assets would have declined from 6.5% to 6.0% for fiscal Q2 2008. Moreover, the percent growth in Level III assets as a percentage of total assets, for fiscal Q2 2008 relative to fiscal Q1 2008, would have been 0.6% in the ratio as compared to a percent growth of 1.1% in the ratio.[391] Therefore, if anything, disclosure of Lehman's Repo 105s would have reduced the market's negative reaction to its Level III assets disclosure on July 11, 2008.

233. Second, market commentary also attributed Lehman's stock price declines to continued "distress in financial markets [that] spooked investors," citing persistent rumors concerning Lehman's counterparties and "fears that the U.S. housing crisis would drag down the nation's

[387] Fox-Pitt Kelton Cochran Caronia Waller, "Some Highlights from 2Q08 10Q," July 11, 2008, p. 1.

[388] In Lehman's Q2 2008 Earnings Conference Call, held on June 16, 2008, it disclosed: "With respect to level three assets, we are still completing our review. Our current expectation is that level three assets will decline from last quarter's level of $40.2 billion. During the quarter, we sold approximately $3.5 billion of level three assets and also had additional write-downs of approximately $2 billion that would have brought us down to approximately $35 billion in combination. However, this reduction will be offset by net transfers in and other activity of approximately $3.5 billion. Therefore, we expect to end the quarter at approximately $38 billion of level three assets."

[389] "Lehman Says It Shrank Level 3 Assets by 2.7% in Second Quarter," *Bloomberg News*, July 10, 2008, 5:57 PM.

[390] "Lehman Brothers shares tumble; percentage of hard-to-value assets grows," *Associated Press*, July 11, 2008, 10:46 AM.

[391] *See* Duff & Phelps' October 21, 2009 Repo 105 Usage – by FAS 157 Fair Value Level was incorporated by reference into Appendix 17 of the Examiner's Report; Lehman fiscal Q1 2008 10-Q, pp. 5, 23; Lehman fiscal Q2 2008 10-Q, pp. 5, 29.

major mortgage finance agencies, Freddie Mac and Fannie Mae."[392] As noted in my analysis of July 10, 2008, the impact of rumors and increased risk that Fannie Mae and Freddie Mac could fail, and their implications for Lehman's future business, are external events and not the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s.

234. Third, S&P issued a research bulletin indicating that Lehman "continues to reflect sound credit fundamentals" and that S&P was "concerned that ill-founded and persistent pressures on Lehman's stock unnecessarily prolong what is already a very challenging business environment."[393] In addition, the report reiterated that S&P downgraded Lehman's credit rating on June 2, 2008 "based on [its] expectation that persistent dislocations in global capital markets could further weigh on the core operating performance of the securities industry as a whole."[394] The information contained in S&P's bulletin likely had a positive influence, if anything, on Lehman's securities prices. However, even if S&P's comments were negatively viewed by market participants, S&P cited information that did not reflect the materialization of risks allegedly concealed by Lehman's financial reporting for Repo 105s.

c) July 25, 2008

235. On Friday, July 25, 2008,[395] Lehman's stock price declined by $1.47, or 7.94%, from its previous closing price to end at $17.05. The residual decline on this day was $1.15, or 6.21%, which is not statistically significant at the 95% confidence level. Exhibit 45.f contains an

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[392] "UPDATE 1-Lehman shares plunge amid market distress," *Reuters News*, July 11, 2008, 3:46 PM. This article also notes that "[i]t is extremely difficult to know the market value of the mortgages, real estate, and related securities that are valued on Lehman's books at around $60 billion, experts said."

[393] Standard & Poor's, "Lehman Brothers Holdings Inc. Rating Continues To Reflect Sound Credit Fundamentals," Research Bulletin, July 11, 2008.

[394] Standard & Poor's, "Lehman Brothers Holdings Inc. Rating Continues To Reflect Sound Credit Fundamentals," Research Bulletin, July 11, 2008.

[395] July 25, 2008 is an alleged corrective disclosure day in the New Jersey and San Mateo actions. In its complaint, New Jersey alleges: "On July 25, 2008, CNBC reported that Lehman was considering selling at least part of its IMD. The move was an attempt to raise badly needed capital and improve liquidity. This development partially revealed the truth concerning Lehman's increasingly urgent capital and liquidity needs. It also evidenced the materialization of previously concealed risks regarding capital and liquidity – *e.g.*, the risk that Lehman would need a major infusion of cash to sustain its operations, and that it might need to sell part of the Company to generate the necessary cash. On that day, Lehman's common stock price dropped to a closing price of $17.05, an 8% decrease from the prior day close, and continued to fall an additional 10% on the next trading day. The market price of the Series P and Series Q preferred stock that Plaintiff held declined by 5% and 11%, respectively, on July 25, 2008." New Jersey Second Amended Complaint, ¶338.

intraday price chart of Lehman's common stock on July 25, 2008, with annotations of select events.

236. One piece of potentially value-relevant information was released on July 25, 2008. However, because Lehman's residual return is not statistically significant, there is no reliable basis to conclude that the information released on this day caused Lehman's stock price to decline.

237. After market close on July 24, 2008, CNBC reported that Lehman was considering selling part of Neuberger Berman, its investment management unit.[396] Although Lehman declined to comment on the news itself, the speculation was not new and did not represent the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. As discussed in Sections VII.A and VII.B, the risk that Lehman may potentially raise additional capital was known to market participants given its vast real estate holdings and the write-downs it faced as the real estate market continued to deteriorate. This risk was not concealed by Lehman's financial reporting for Repo 105s.

238. Fox-Pitt Kelton issued a report commenting on the potential Neuberger Berman deal and compared selling Neuberger Berman with other strategic alternatives for Lehman.[397] In addition, analysts at Fitch and Moody's indicated that if Lehman were to sell its asset management business, "any impact on its debt ratings would likely be minimal."[398] The commentary from equity and rating agency analysts regarding a possible sale of Neuberger Berman did not reflect the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s.

2. Section 11 Claims Regarding Preferred Stock And Bonds

239. New Jersey asserts Section 11 claims related to its April 1, 2008 investment in Lehman's preferred stock issued April 1, 2008 and Lehman's bonds. New Jersey's first purchase for

[396] "Lehman May Sell Neuberger Berman for $8 Billion, CNBC Says," *Bloomberg News*, July 24, 2008, 11:40 PM.
[397] Fox-Pitt Kelton Cochran Caronia Waller, "Selling Neuberger Could Be Part of MBO/Going-Private," July 25, 2008.
[398] "Neuberger sale wouldn't crunch Lehman debt ratings," *Reuters News*, July 25, 2008, 3:32 PM. Professor Chambers' conclusion that disclosure of Lehman's Repo 105s would not have altered Lehman's credit ratings is consistent with my view that Fitch's and Moody's comments on July 25, 2008 did not reflect the materialization of risks allegedly concealed by Lehman's financial reporting for Repo 105s.

which it is making Section 11 claims for these securities was its purchase of 5.625% senior unsecured notes due 2014 on January 15, 2008.

240. New Jersey alleges that risks concealed by Lehman's financial reporting for Repo 105s materialized and were revealed to the market in a series of announcements on June 9, 2008, July 10, 2008, July 25, 2008, September 9, 2008, September 10, 2008, and September 15, 2008, as discussed above. Sections VIII.A.1.b) and VIII.C.1 provide my analysis of the information released on these days. Also, Exhibit 50 shows the changes in the prices of Lehman's preferred stock and bonds on each of New Jersey's alleged corrective disclosure days. The exhibit demonstrates that the prices of certain bonds alleged by New Jersey increased on select alleged corrective disclosure days.

241. Setting aside that New Jersey makes no claims that risks concealed by Lehman's financial reporting for Repo 105s materialized on days other than these alleged corrective disclosure days, I reviewed information about Lehman that was released on every day from the date of New Jersey's initial purchase at issue on January 15, 2008 through Lehman's bankruptcy filing on September 15, 2008.[399] The information reviewed is contained in Appendix B. As with the information released on the alleged corrective disclosure days, and consistent with the fact that New Jersey has not made any allegations about the information released on these days, I find that no information released over this period reflected the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. Therefore, none of the declines in the prices of Lehman's preferred stock and bonds over this period were caused by the alleged misrepresentations. Because there is no loss causation, there are no damages associated with New Jersey's Section 11 claims involving Lehman's preferred stock and bonds.

[399] I also prepared a regression analysis in an effort to conduct an event study to identify preferred stock and bond price declines on days other than New Jersey's alleged corrective disclosure days that could reliably be identified as related to Lehman-specific news. I regressed the returns for each preferred stock against a preferred stock market index and the returns for each bond at issue against a bond market index that matched the maturity of the bond over the period March 25, 2008 to September 5, 2008. Results of the regression analysis are shown in Exhibit 51.

D. San Mateo Action: There Is No Loss Causation And No Damages Associated With The Rule 10b-5 Claims Or Section 11 Claims Regarding Bonds

242. For its Rule 10b-5 claims regarding bonds, none of the losses suffered by San Mateo on its investments in Lehman's bonds that occurred on the alleged corrective disclosure dates were caused by the alleged misrepresentations. As shown in Exhibit 3, San Mateo alleges the following corrective disclosure days, each of which has been addressed previously: June 9, 2008, July 10, 2008, July 25, 2008, September 9, 2008, September 10, 2008, and September 15, 2008. Sections VIII.A.1 and VIII.C.1 discuss my event study analysis and loss causation analysis pertaining to these days.

243. For its Section 11 claims regarding bonds, none of the losses suffered by San Mateo were caused by the alleged misrepresentations.[400] I analyzed information about Lehman that was released from the date of San Mateo's first purchase at issue under Section 11 on August 21, 2006 through Lehman's bankruptcy filing on September 15, 2008. I find that no information was released during this period that reflected the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. Therefore, none of the declines in the prices of Lehman's bonds during this period were caused by the alleged misrepresentations. Because there is no loss causation, there are no damages associated with San Mateo's Section 11 claims involving Lehman's bonds.

1. Section 11 Claims Regarding Bonds

244. San Mateo asserts Section 11 claims related to its investment in bonds issued by Lehman. San Mateo's first purchase for which it is making Section 11 claims for these securities was on August 21, 2006.[401]

245. San Mateo alleges that risks concealed by Lehman's financial reporting for Repo 105s materialized and were revealed to the market in a series of announcements on June 9, 2008, July 10, 2008, July 25, 2008, September 9, 2008, September 10, 2008, and September 15, 2008. Sections VIII.A.1 and VIII.C.1 provide my analysis of the information released on these days.

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[400] I understand from counsel that San Mateo's Section 11 claims with respect to its bond purchases prior to August 21, 2006 have been dismissed.

[401] I understand from counsel that San Mateo's Section 11 claims with respect to its bond purchases prior to August 21, 2006 have been dismissed.

Also, Exhibit 52 provides the changes in Lehman's bond prices on each of the days identified as alleged corrective disclosure days by San Mateo. The exhibit demonstrates that the prices of certain Lehman bonds alleged by San Mateo increased on certain alleged corrective disclosure days.

246. Setting aside that San Mateo makes no claims that risks concealed by Lehman's financial reporting for Repo 105s materialized on days other than these alleged corrective disclosure days, I reviewed information that reached the market about Lehman for every day between the date of San Mateo's initial purchase at issue on August 21, 2006 and Lehman's bankruptcy on September 15, 2008.[402] The information reviewed is contained in Appendix B. As with the information released on the alleged corrective disclosure days, and consistent with the fact that San Mateo has not made any allegations about the information released on these days, I find that no information released between August 21, 2006 and September 15, 2008 reflected the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. Therefore, none of the declines in the prices of Lehman's bonds over this period were caused by the alleged misrepresentations. Because there is no loss causation, there are no damages associated with San Mateo's Section 11 claims involving Lehman's bonds.

E. WSIB Action: There Is No Loss Causation And No Damages Associated With The Section 11 Claims Regarding Bonds

247. For its Section 11 claims regarding Lehman's bonds, none of the losses suffered by WSIB were caused by the alleged misrepresentations. I analyzed information about Lehman that was released from the date of WSIB's first purchase at issue under Section 11 on October 17, 2006 through Lehman's bankruptcy filing on September 15, 2008. I find that no information released during this period reflected the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. Therefore, none of the declines in the prices of Lehman's bonds were caused by the alleged misrepresentations. Because there is

[402] I also prepared a regression analysis in an effort to conduct an event study to identify bond price declines on days other than San Mateo's alleged corrective disclosure days that could reliably be identified as related to Lehman-specific news. I regressed the returns for each bond at issue against a market index that matched the maturity of the bond over the period March 25, 2008 to September 5, 2008. Results of the regression analysis are shown in Exhibit 53.

no loss causation, there are no damages associated with WSIB's Section 11 claims involving Lehman's bonds.

1. Section 11 Claims Regarding Bonds

248. WSIB asserts Section 11 claims related to its investment in bonds issued by Lehman. WSIB's first purchase for which it is making Section 11 claims for these securities was on October 17, 2006.

249. WSIB has not identified any specific days on which risks concealed by Lehman's financial reporting for Repo 105s allegedly materialized and were revealed to the market. I reviewed information about Lehman that was released on every day between the date of WSIB's initial purchase at issue on October 17, 2006 and Lehman's bankruptcy on September 15, 2008.[403] The information reviewed is contained in Appendix B. As with the information released on the alleged corrective disclosure days for the other actions, and consistent with the fact that WSIB has not made any allegations about the information released on these days, I find that no information released during this period reflected the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. Therefore, none of the declines in the prices of Lehman's bonds during this period were caused by the alleged misrepresentations. Because there is no loss causation, there are no damages associated with WSIB's Section 11 claims involving Lehman's bonds.

F. Other Individual Actions: There Is No Loss Causation And No Damages Associated With The Rule 10b-5 Or Section 11 Claims Regarding Common Stock, Preferred Stock, And Bonds

250. As discussed in Section II, I have not been asked to specifically address any allegations made in any individual actions other than the five individual actions addressed in detail above. However, to the extent that any of the other individual actions (1) make allegations similar to those in the five individual actions addressed in Sections VIII.A through VIII.E; (2) identify

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403 I also prepared a regression analysis in an effort to conduct an event study to identify bond price declines that could reliably be identified as related to Lehman-specific news. I regressed the returns for each bond at issue against a market index that matched the maturity of the bond over the period March 25, 2008 to September 5, 2008. Results of the regression analysis are shown in Exhibit 54.

alleged corrective disclosure days consistent with those addressed above; (3) make similar Rule 10b-5 allegations with respect to the common stock, preferred stock, and bonds addressed above; or (4) make similar Section 11 allegations with respect to the common stock, preferred stock, and bonds addressed above, my opinions and analysis in this report would equally apply to those claims.

Executed this 20th day of October, 2013.

Kenneth M. Lehn

Appendix A
Analysis Of Days During June 9, 2008 Through September 15, 2008 (Excluding Alleged Corrective Disclosure Days) On Which There Was A Statistically Significant Decline In Lehman's Common Stock Price

I. June 10, 2008

1. On Tuesday, June 10, 2008,[1] Lehman's stock price declined by 6.72% to close at $27.50, $1.98 below its previous closing price of $29.48. The residual decline on this day was $2.57, or 8.70%, which is statistically significant at the 95% confidence level. Exhibit 45.b contains an intraday price chart of Lehman's common stock on June 10, 2008, with annotations of select events.

2. The only potentially value-relevant information released on this day was commentary by equity analysts on Lehman's earnings announcement on the previous day. For example, after the market closed on June 9, 2008 and before it opened on June 10, 2008, UBS, J.P. Morgan, and Oppenheimer issued reports commenting on Lehman's fiscal Q2 2008 loss and the adequacy of its write-downs and capital raise. Additional analysts also issued reports on Lehman's earnings announcement during the day.[2]

3. In response to Lehman's June 9, 2008 announcements, equity analysts dampened their outlook for Lehman. Wachovia and Credit Suisse cut recommendations on Lehman's common stock, and J.P. Morgan, Merrill Lynch, UBS, and Oppenheimer reduced their earnings estimates for Lehman. The information contained in these equity analyst reports does not reflect the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. The equity analysts focused on the sufficiency of the write-downs, the volume of real estate–related assets remaining on Lehman's books, expectations for future write-downs, and the possibility of further market deterioration leading to more write-downs as factors putting pressure on Lehman's stock price:

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[1] June 10, 2008 is not an alleged corrective disclosure day in any of the actions, as shown in Exhibit 3. However, plaintiffs attribute the declines in Lehman's securities on June 10, 2008 to information released on June 9, 2008 in the CalPERS, Starr, and New Jersey actions. For example, the CalPERS' complaint alleges: "On June 9, 2008, before the markets opened, Lehman issued a press release announcing its financial results for its second quarter of 2008 ending on May 31, 2008…. On this news, Lehman's shares declined 8.7% and continued to fall an additional 19.44% over the next two days." CalPERS Second Amended Complaint, ¶226. An analysis of the information reaching the market on June 9, 2008 is provided in Section VIII.A.1.b.1).

[2] Credit Suisse, Merrill Lynch, and Wachovia also issued reports on June 10, 2008, but the time of release was not available.

> We lower estimates and maintain our Neutral rating given unfavorable market conditions.[3]

> We appreciate the accomplishment of the de-leveraging and the 15-20% reduction in its real estate inventories, but the retained exposure remains too large in so uncertain a macroeconomic environment. We are reducing our rating to Neutral with a belief that the shares are unlikely to outperform until these inventories are more substantially reduced.[4]

> Given the remaining $65B in risky exposures, the lack of clarity around marks, plus the weakening macro backdrop, we cut our EPS estimates.[5]

> While on one hand LEH stock may look inexpensive at 0.9x expected BVPS, on the other hand there is too much uncertainty with potential losses on Lehman's remaining gross exposures. We maintain our Perform rating on LEH.[6]

> As long as the broad economy remains under pressure, potential remains for losses and delinquencies on mortgage and credit assets to increase. Hedge ineffectiveness helped magnify losses in Q2 and, despite mgmt. hopes, there is no guarantee this dislocation will not recur. Also, increasing Fed scrutiny could impede mgmt. plans to redeploy new capital.[7]

4. As discussed in Section VII.A, the information contained in these equity analyst reports reflects the materialization of risks that were known to the market, such as the continued deterioration of real estate and credit markets and Lehman's problem assets. Therefore, the decline in Lehman's stock price on this day was not caused by the alleged misrepresentations.

II. June 12, 2008

5. On Thursday, June 12, 2008, Lehman's stock price declined by 4.42% to close at $22.70, $1.05 below its previous closing price of $23.75. The residual decline on this day was $1.96, or 8.25%, which is statistically significant at the 95% confidence level. Exhibit 45.c contains an

[3] J.P. Morgan, "$4.9B in Write-downs; Reality Bites," June 9, 2008 (after market hours), p. 1.
[4] Credit Suisse, "Recalibrating Expectations," June 10, 2008, p. 1.
[5] UBS Investment Research, "Unanswered Questions Continue To Weigh," June 10, 2008, p. 1.
[6] Oppenheimer, "LEH Pre-announces EPS Loss of $5.14 and Capital Raise of $6B," June 10, 2008, p. 1.
[7] Merrill Lynch, "Cutting ests after massive loss, but maintain Buy," June 10, 2008, p. 1.

intraday price chart of Lehman's common stock on June 12, 2008, with annotations of select events.

6. The potentially value-relevant information released on this day includes Lehman's announced replacement of its CFO and President before the market opened,[8] and the release of analyst reports by UBS and Wachovia commenting on the changes.

7. Although no explanation for the management change was given in Lehman's press release, the media and equity analysts attributed the management shift to the company's recent poor performance. For example,

> Lehman today replaced Chief Financial Officer Erin Callan and President Joseph Gregory after the firm failed to quell speculation about mounting losses and stem a 60 percent plunge in the stock this year.[9]

> Lehman Brothers executed a sudden management shake-up on Thursday, ousting its long-serving president and demoting its finance chief following a $2.8bn second-quarter loss that raised questions about its future as an independent investment bank. The moves are the latest in a wave of management changes across Wall Street. Banks that recorded record profits earlier in the decade have suffered heavy losses on mortgage assets and related trading positions.[10]

> Given the financial & credibility issues facing Lehman, the moves are not a total surprise, though the timing is a bit unexpected…. While we think these changes are part of the healing process, they don't change the difficult operating environment and the challenges facing LEH given its remaining risk exposures (and respective marks). We think some more color surrounding asset marks & their composition on the Monday June 16th earnings call combined with this management shift could help settle the stock.[11]

> A shake-up at the higher ranks is probably needed given the tumultuous two months LEH has experienced…. The timing of the announcement following the recent equity offering was not ideal. However, given how financials work in the new "post-Bear Stearns" world, we can't completely fault LEH. LEH needed capital immediately and had to take action…. We believe both the capital raise

[8] "Herbert (Bart) H. McDade III Named President, Chief Operating Officer, Ian Lowitt Named Chief Financial Officer," *Dow Jones News Service*, June 12, 2008, 9:19 AM.

[9] "Sorrentino Says Lehman's Fuld Had No Choice With Callan: Video," *Bloomberg News*, June 12, 2008, 5:26 PM.

[10] "Lehman shakes up management after $3bn loss," *Financial Times*, June 12, 2008.

[11] UBS Investment Research, "Part of the Healing Process," June 12, 2008, p. 1.

> and the management changes are good for the company. However, we expect dilution and new disgruntled shareholders to continue to pressure the stock.[12]

8. Neither the decision to replace senior officers nor its impact on Lehman was linked to the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. Instead, the management changes generally were attributed to Lehman's recent earnings loss, the write-downs, and its declining stock price, all of which were the result of the materialization of risks that were known to the market and related to the liquidity crisis. Therefore, the decline in Lehman's stock price on this day was not caused by the alleged misrepresentations.

III. September 11, 2008

9. On Thursday, September 11, 2008,[13] Lehman's stock price declined by 41.79% to close at $4.22, $3.03 below its previous closing price of $7.25. The residual decline on this day was $3.22, or 44.36%, which is statistically significant at the 99% confidence level. Exhibit 45.j contains an intraday stock price chart of Lehman's common stock on September 11, 2008, with annotations of select events.

10. Several pieces of potentially value-relevant information were released on this day. Prior to market open, several analysts reduced their estimates of Lehman's earnings and/or cut recommendations to buy Lehman stock. During the day, a Morgan Stanley analyst report removed its rating and price target for Lehman stock, Lehman was said to be in talks with potential buyers, and rating agency A.M. Best downgraded its credit ratings on a Lehman subsidiary. At 3:56 PM, the *Wall Street Journal* reported Bank of America was in talks to buy Lehman.

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[12] Wachovia, "LEH: Management Changes Not Completely Surprising," June 12, 2008, p. 1.

[13] September 11, 2008 is not an alleged corrective disclosure date in any of the individual actions, as shown in Exhibit 3. However, New Jersey alleges that Lehman's stock price declined on September 11, 2008 in response to information released on September 10, 2008, for example: "On September 10, 2008, Lehman held a conference call during which it reported a $3.9 billion loss for the third quarter of 2008 (its largest quarterly loss ever) and $7 billion in gross write downs of its residential and commercial real estate holdings. The loss and write downs occurred despite Lehman having previously announced purported success with its delevering plan, its strong liquidity position, that it had risk management policies in place, and that its assets had been fairly valued. On this day, Fitch and Dunn & Bradstreet downgraded Lehman's credit rating. On this collective news, the market price of Lehman's common stock declined 7% from the prior day to close at $7.25, and it declined another 42% and 13.5% on the following two days." New Jersey Second Amended Complaint, ¶340.

11. The actions by equity analysts prior to market open were not the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s. A *Bloomberg News* article on this day reported that Lehman's stock price declined "after four analysts cut their recommendations because of the possible ratings change [from Moody's]."[14] It was a known risk that a crisis in confidence could lead to downgrades by ratings agencies, which could further exacerbate any crisis in confidence and lead to liquidity issues. Moreover, as discussed in Section VI.A, Moody's did not rely on net leverage ratios, describing them as its "least favorite." Instead, Moody's decision "reflect[ed] the high degree of fluidity in Lehman's current situation," citing that "Lehman's financial flexibility has become more limited as its stock price has fallen to near all-time lows and the firm is experiencing a crisis of confidence."[15] The extent of this risk was not concealed by Lehman's financial reporting for Repo 105s. In addition, analysts cut recommendations for other reasons beyond Moody's announcement, including wider-than-expected fiscal Q3 2008 losses attributable to weak core business revenues and higher compensation expenses, as well as continued uncertainty about Lehman's strategic plans:

> Wider than expected Q3 EPS loss was higher than expected on weaker core revs (in non-fixed income capital markets areas) & higher than expected comp expense while net markdowns (incl. gains on LEH's own debt of $1.4B) were $5.6B, lower than the $6B assumed in our numbers.[16]

> We are lowering our 2008 EPS estimate for LEH to a ($12.18) loss from a ($4.65) loss to reflect poor Q3 results…. We are also lowering our 2009E EPS estimate to $2.48 from $3.72 on weaker expected equity and fixed income sales and trading results…. Despite the upside our price target implies, Bernstein believes that LEH still faces significant challenges looking forward. Its troubled exposures are still

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[14] "Lehman's Survival Hinges on Reluctant Sale of Unit (Update5)," *Bloomberg News*, September 11, 2008, 6:09 PM.

[15] Moody's Investors Service, "Moody's places Lehman's A2 rating on review with direction uncertain," September 10, 2008. Professor Chambers' conclusion that disclosure of Lehman's Repo 105s would not have altered Lehman's credit ratings is consistent with my view that Moody's ratings action on September 10, 2008 did not reflect the materialization of a risk allegedly concealed by Lehman's financial reporting for Repo 105s.

[16] Bank of America, "Lots of Talk, Not Enough Action; Reduce Ests. & Target; Reiterate Neutral," September 11, 2008, p. 1.

> high and it faces correlation risk, counterparty risk and roll risk on all the hedges supporting its troubled asset positions.[17]
>
> We don't see any potential liquidity issues with the Fed backstop in place and we view Lehman's strategic initiatives as an incremental positive, however confidence and perception issues are overwhelming Lehman's franchise value. We are downgrading LEH shares based on the view that there is far less upside in the stock based on recent events, including 1) deterioration of capital as a result of 3Q losses, 2) a higher probability of negative rating agency actions, and 3) the sharp decline in share price that has the potential to further negatively impact the confidence and perception around the Lehman franchise, as well as making the ability to raise a large amount of capital less likely and more dilutive, in our view.[18]
>
> We are downgrading Lehman Brothers to Neutral from Buy and lowering our 6-month price target based on P/TB to $7 from $22. The company reported a 3Q2008 loss of $5.92, which was much worse than our $2.75 loss estimate. More importantly though, management did not successfully put to rest the issues that had been pressuring the stock, and with significant uncertainty remaining about the firm's future initiatives, we moved to a Neutral rating.[19]

The information contained in these equity analyst reports reflected either materializations of known risks or information distinct from Lehman's financial reporting for Repo 105s. The extent of the risks that materialized was not concealed by Lehman's financial reporting for Repo 105s.

IV. September 12, 2008

12. On Friday, September 12, 2008,[20] Lehman's stock price declined by 13.51% to close at $3.65, $0.57 below its previous closing price of $4.22. The residual decline on this day was

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[17] Bernstein Research, "LEH: Q3 '08 Another Quarter of Disappointing Results Driven by Writedowns," September 11, 2008, pp. 1–2.

[18] Citi, "Perception Trumps Fundamentals For Now, Downgrading To Hold," September 11, 2008, p. 1.

[19] Goldman Sachs, "Uncertainty remains; removing from Americas Buy List," September 11, 2008, p. 1.

[20] September 12, 2008 is not an alleged corrective disclosure day in any of the actions. However, New Jersey attributes the declines in Lehman's securities on September 12, 2008 to information released on September 10, 2008: "On September 10, 2008, Lehman held a conference call during which it reported a $3.9 billion loss for the third quarter of 2008 (its largest quarterly loss ever) and $7 billion in gross write downs of its residential and commercial real estate holdings…. On this day, Fitch and Dunn & Bradstreet downgraded Lehman's credit rating. On this collective news, the market price of Lehman's common stock declined 7% from the prior day to close at

$0.45, or 10.75%, which is statistically significant at the 99% confidence level. Exhibit 45.k contains an intraday price chart of Lehman's common stock on September 12, 2008 with annotations of select events.

13. Several pieces of potentially value-relevant information were released on this day. First, it was reported that the U.S. Treasury Secretary Henry Paulson was "adamant" that no government money would be used to resolve the Lehman crisis,[21] and Ladenburg Thalmann analyst Richard Bove predicted Bank of America would likely win the auction of Lehman. During market hours, S&P analyst Scott Sprinzen was quoted as saying that he did not expect Lehman to fail.[22] S&P revised Lehman's CreditWatch listing to developing from negative, meaning that it "could raise, affirm, or lower the ratings."[23] Fitch also warned that Lehman's rating would be cut in the near term if it could not strike a deal to shore up its capital.[24] In addition, HSBC issued a report removing its neutral rating and target price and placing both under review.[25]

14. Mr. Paulson's firm decision of not using government money to resolve the Lehman crisis, according to the source familiar with the matter, was based on the fact that the company already had "substantial support from the Federal Reserve as it race[d] to negotiate with potential buyers."[26] This was not the materialization of a new risk. As the source told *Reuters*:

> There are two things that make this different from Bear Stearns. The market's been aware of the situation for a long time and has had time to prepare. Second, the Primary Dealer Credit Facility was created by the Fed to allow time for an orderly process.[27]

$7.25, and it declined another 42% and 13.5% on the following two days." New Jersey Second Amended Complaint, ¶340.

[21] "Paulson 'adamant' no govt funds for Lehman-source," *Reuters News*, September 12, 2008, 9:47 AM.

[22] "S&P analyst says does not expect Lehman to fail," *Reuters News*, September 12, 2008, 10:23 AM.

[23] "Lehman Watch to Developing from Negative by S&P: LEH US," *Bloomberg News*, September 12, 2008, 10:27 AM. *See also* Standard & Poor's, "Lehman Brothers CreditWatch Revised To Developing After Reports Of Potential Sale Of Company," September 12, 2008.

[24] "Fitch says Lehman rating will be cut without a deal," *Reuters News*, September 12, 2008, 12:49 PM.

[25] HSBC, "The end-game. Removing Neutral (V) rating and target price and placing both under review," September 12, 2008 (time of release was not available).

[26] "Paulson 'adamant' no govt funds for Lehman-source," *Reuters News*, September 12, 2008, 9:47 AM.

[27] "Paulson 'adamant' no govt funds for Lehman-source," *Reuters News*, September 12, 2008, 9:47 AM.

15. As for news regarding the potential sale of the company, which was discussed on the prior day after Moody's placed Lehman's rating on review, the reaction was generally positive. As S&P stated in its decision to revise Lehman's CreditWatch to developing:

> If Lehman were to be acquired, we could raise the ratings, with the extent of the upgrade being dependent on our assessment of:
>
> -- The credit quality of the combined company;
> -- The acquirer's business strategy with respect to Lehman; and
> -- The structure of the transaction, including any formal support extended by the acquirer to Lehman's debt and other obligations.
>
> As part of our review, we would also take account of special support extended by the Federal Reserve, if any.[28]

16. S&P also showed caution in revising the rating any further given the uncertain future:

> Barring a takeover, Standard & Poor's would continue to review Lehman's ratings for a potential downgrade, based on the concerns we expressed previously regarding Lehman's long-range profit potential, its exposure to problematic assets, and its capital adequacy.[29]

17. Similarly, Fitch's warning of potential future downgrade and HSBC's rating removal also reflected such uncertainty:

> In the absence of any deal [to shore up its capital], there will be downgrade.[30]
>
> With a market cap of less than USD3bn and most market indicators on the company pointing to distress, Lehman Brothers is under intense pressure to reach a strategic solution to its problems either today or over this weekend…. [T]he disappointing Q3 results, the still material legacy risk-asset positions and our belief that customer business is falling away from the firm at an accelerating rate underpin the sharp reduction in our 2008 earnings estimate and the substantial cuts to our 2009-2010 estimates…. The reductions in our 2009-10 estimates

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[28] Standard & Poor's, "Lehman Brothers CreditWatch Revised To Developing After Reports Of Potential Sale Of Company," September 12, 2008.

[29] Standard & Poor's, "Lehman Brothers CreditWatch Revised To Developing After Reports Of Potential Sale Of Company," September 12, 2008.

[30] "Fitch says Lehman rating will be cut without a deal," *Reuters News*, September 12, 2008, 12:49 PM.

> reflect a lagging recovery of industry growth rates almost across the board, the major exception being the asset management business.[31]

18. Therefore, the continuing uncertainty, which was the focus of market participants, reflected a combination of the materialization of known risks. As discussed in the sections above, these risks were not concealed by Lehman's financial reporting for Repo 105s.

19. Furthermore, there is considerable indication that Lehman's stock price declines reflected anticipation of likelihood of a sale of Lehman. Prior to Mr. Paulson's announcement, it appeared that some market participants believed the Federal Reserve would intervene to help with the sale:

> Market speculation continues to center around Bank of America (unrated) as the most likely buyer of the bulk of the Lehman business, following perhaps a government-sponsored hiving off of the highest-risk assets (eg much of the commercial real estate) into a separate entity or "'bad"' bank and the provision of put options on certain remaining actions.[32]

> With a beleaguered Lehman Brothers Holdings Inc. (LEH) likely to be sold, one key issue is what a backstop from the Federal Reserve, if it materialized, would look like. While reports suggest there could be federal intervention to help a purchase of Lehman, the government may not do as much as is expected because there is a credit line presently available for Lehman, and because a government backstop could encourage moral hazard by lessening risk for investors.[33]

20. However, as market open approached, intervention from the Federal Reserve appeared less likely. Many sources spoke out against potential intervention:

> When it comes to a potential sale of Lehman Brothers Holdings, the Fed needs to stand aside.… If the Federal Reserve now backstops an emergency sale of Lehman, this will only reinforce the idea that the cavalry will always ride to creditors' rescue in supposedly too-important-to-fail firms. That would especially be the case if a bailout were organized so soon after the Treasury rescued creditors of Fannie Mae and Freddie Mac. Unlike those government-sponsored

[31] HSBC, "The end-game. Removing Neutral (V) rating and target price and placing both under review," September 12, 2008, p. 1.
[32] HSBC, "The end-game. Removing Neutral (V) rating and target price and placing both under review," September 12, 2008, p. 1.
[33] "Possible Govt Backstop For Lehman Buy Has Two Prior Models," *Dow Jones News Service*, September 11, 2008, 7:03 PM.

> entities, Lehman is a purely shareholder-owned firm. Neither stockholders nor debt investors should expect to be looked after.[34]
>
> William Poole, former president of the Federal Reserve Bank of St. Louis, said the U.S. central bank and the government shouldn't provide funding for any purchase of Lehman Brothers Holdings Inc. by another bank.[35]
>
> Vincent Reinhart, former director of the Federal Reserve's Division of Monetary Affairs, comments…[o]n the mood inside the Fed: "They recognize that a key investment bank is on the ropes. But they also recognize there's got to be a line drawn…, [t]hey've got to…make a distinction between investment and depository institutions.… You're supposed to look at an investment bank and say, 'anybody dealing with a firm like that should be sophisticated enough to appreciate the risks.'"[36]

21. The market also expressed some concerns over Lehman's remaining exposure to real estate–related and other illiquid assets and the difficulty it may cause for closing a deal:

> Lehman still had a $50 billion mortgage portfolio at the end of August. Although just $1.6 billion are subprime mortgages, falling home prices and fear of a U.S. recession have brought down the prices of other mortgage-related securities in Lehman's holdings. "It'll have to be a joint public-private solution because the buyers aren't going to take these hits on the troubled assets," said David Hendler, an analyst at CreditSights Inc.[37]
>
> Amid ongoing speculation about a Bank of America Corp. (BAC) bid for Lehman, the key issue is the fate of Lehman's commercial-mortgage portfolio.… "The key in a transaction like this is conducting a fair amount of structure and due diligence to understand risks," said a merger-and-acquisition expert, adding that a plan to mitigate potential risks needs to be in place. However, in the case of Lehman, "there is not a lot of time."[38]

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[34] "Sink or Swim for Lehman," *Wall Street Journal*, September 12, 2008.
[35] "Poole Says Fed Shouldn't Give Funding to Any Lehman Agreement," *Bloomberg News*, September 12, 2008, 6:50 AM.
[36] "Ex-Fed Official Reinhart Sees Limits on Lehman Intervention," *Bloomberg News*, September 12, 2008, 8:37 AM.
[37] "Lehman's Fuld Races to Sell Firm as Fed Balks at Deal (Update3)," *Bloomberg News*, September 12, 2008, 9:59 AM.
[38] "Potential Lehman Buyers' Options If Fed Won't Backstop Deal," *Dow Jones News Service*, September 12, 2008, 3:19 PM.

22. The Federal Reserve's decision to not provide a backstop to potential buyers of Lehman and the risk associated with Lehman's remaining exposure to real estate–related and other illiquid assets was not concealed by Lehman's financial reporting for Repo 105s.

October 2013

Exhibit 1
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Curriculum Vitae

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Education

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M.A., Miami University, 1976 (Economics).
B.A., Waynesburg College, 1975 (Economics).

Employment

Samuel A. McCullough Professor of Finance, March 1999-present; Professor of Business Administration, September 1991-March 1999; Katz Graduate School of Business, University of Pittsburgh.

Professor of Law, School of Law, University of Pittsburgh, September 1997-present.

Director, Center for Research on Contracts and the Structure of Enterprise, University of Pittsburgh, 1991-2001.

Chief Economist, U.S. Securities and Exchange Commission, June 1987-July 1991.

Adjunct Professor of Law, Georgetown University, 1990-1991.

Assistant Professor of Business and Public Policy, School of Business Administration, Washington University, 1981-1987.

Research Associate, Center for the Study of American Business, Washington University, 1986-1987.

Visiting Assistant Professor of Economics, University of California, Los Angeles, 1986.

Deputy Chief Economist, U.S. Securities and Exchange Commission, 1984-1985.

Instructor of Economics, Miami University, 1976-1977.

Courses Taught

Corporate Finance (MBA)
Applied Corporate Finance (MBA)
Valuation (MBA)
Creating Value through Restructuring (MBA)
Organization of Securities Markets (Undergraduate)
Business and Public Policy (Undergraduate, MBA, Executive)
Corporate Governance (Doctoral)
Finance for Lawyers (Law)

Teaching Awards

MBA Teacher of the Year (Pittsburgh), nine times.
MBA Teacher of the Year (Washington U.), 1987.
Undergraduate Teacher of the Year (Washington U.), 1981.
Undergraduate Finance Teacher of the Year (Pittsburgh), 2013.

Published Papers During the Past Ten Years

"Financing the business firm," with Leonce Bargeron in *The Oxford Handbook in Managerial Economics*, edited by William Shughart and Christopher Thomas, Oxford University Press, forthcoming, 2013.

"Sarbanes-Oxley and corporate risk-taking," with Leonce Bargeron and Chad Zutter, *Journal of Accounting and Economics*, February 2010, 34-52.

"Determinants of the size and structure of corporate boards: 1935-2000," with Sukesh Patro and Mengxin Zhao, *Financial Management*, Winter 2009, 747-780. Received Pearson/Prentice-Hall Award for second best paper published in *Financial Management* during 2008-2010.

"The subprime crisis and systemic risk: evidence from U.S. securities markets," with Leonce Bargeron and Mehmet Yalin, *Globalization and Systemic Risk*, edited by Douglas D. Evanoff, David S. Hoelscher, and George G. Kaufman, World Scientific Publishing, 2009, 299-312.

"The CISG: perspectives from an economist," *The CISG and the business lawyer*, edited by Ronald Brand, Harry Flechtner, and Mark Walter, Oxford University Press, 2007, 261-265.

"Governance indexes and valuation: which causes which?," with Sukesh Patro and Mengxin Zhao, *Journal of Corporate Finance* 13 (December 2007), 907-928.

"The rise of the private equity market," with Thomas Boulton and Steven Segal, *New financial instruments and institutions: opportunities and policy challenges*, edited by Yasuyuki Fuchita and Robert Litan, Brookings Institution Press, 2007, 141-161.

"CEO turnover after acquisitions: are bad bidders fired?," with Mengxin Zhao, *Journal of Finance* (August 2006), 1759-1811. Reprinted in *Mergers and acquisitions*, ed. by J. Harold Mulherin, Edward Elgar Publishing, 2012.

"Private insecurities," *The Wall Street Journal*, February 15, 2006.

Consulting

Retained by counsel for various firms and government agencies, including Akin Gump; Arnold & Porter; Arthur Cox; Australian Taxation Office; Baker Botts; Bass, Berry & Sims; Bryan Cave; Buchanan Ingersoll; Cadwalader, Wickersham & Taft; Clifford Chance; Cornell & Gollub; Covington & Burling; Cravath, Swaine and Moore; Crowell & Moring; Davis Graham & Stubbs; Davis Polk & Wardwell; Dechert; Dorsey & Whitney; Gibson, Dunn, & Crutcher; Fried, Frank, Harris, Shriver & Jacobson; Fulbright & Jaworski; Heller Ehrman; Hogan & Hartson; Howrey, Hughes Hubbard & Reed; Irell & Manella; Jones Day; King & Spalding; Kirkland & Ellis; K&L Gates; Kramer Levin Naftalis & Frankel; Latham & Watkins; Lowenstein Sandler; Mayer Brown; McDermott, Will, & Emery; McGuireWoods; Milbank, Tweed, Hadley & McCoy; Morgan, Lewis, & Bockius; Morris, Nichols Arsht & Tunnel; Morrison & Foerster; Nossaman; O'Melveny & Myers; Orrick; Paul, Weiss, & Rifkind; Pepper Hamilton; Pillsbury Winthrop Shaw & Pitman; Proskauer & Rose; Quarles & Brady; Richards, Layton & Finger; Segal McCambridge Singer & Mahoney; Shearman & Sterling; Shook, Hardy & Bacon; Sidley; Simpson Thacher, & Bartlett; Skadden, Arps, Slate, Meagher, & Flom; Steptoe & Johnson; Sullivan & Cromwell; U.S. Securities and Exchange Commission; U.S. Department of Justice; Wachtell, Lipton, Rosen & Katz; Weil Gotshal; Williams & Connolly; Willkie Farr & Gallagher; WilmerHale; Wilson Sonsini; and Winston & Strawn.

Retained as Independent Distribution Consultant for Pilgrim Baxter & Associates, Federated Investors, Hartford Financial, Wachovia Corp. and GAMCO.

Expert Witness Testimony During Past Four Years

Securities and Exchange Commission vs., Life Partners, Inc. et al, deposition testimony, New York, N.Y., August 2013.

Bettina M. Whyte, as Trustee of the Semgroup Litigation Trust vs. PriceWaterhouseCoopers, LLP, deposition testimony, July 2013.

Pfeil, et al. v. State Street Bank & Trust, deposition testimony, New York, N.Y., March 2013.

CMMF, LLC v. J. P. Morgan Investment Management, Inc. and Ted C. Ufferfilge, trial testimony, New York, N.Y., January 2013.

CMMF, LLC v. J. P. Morgan Investment Management, Inc. and Ted C. Ufferfilge, deposition testimony, New York, N.Y., September 2012.

In re Refco Securities Litigation, deposition testimony, New York, N.Y., September 2012.

Securities and Exchange Commission v. Michael W. Perry and A. Scott Keys, deposition testimony, Washington, D.C., May 2012.

Lissa Rohlik vs. I-Flow Corporation, deposition testimony, Pittsburgh, Pa., May 2012.

City of Livonia Employees' Retirement System, et al. vs. Wyeth et al., deposition testimony, New York, N.Y., February 2012.

In Re Delphi Financial Group Shareholder Litigation, deposition testimony, Wilmington, Delaware, February 2012.

Alaska Electrical Pension Fund et al. v. Pharmacia Corporation et al., deposition testimony, New York, N.Y., October 2011.

Securities and Exchange Commission v. Rajnish Das and Stormy Dean, deposition testimony, Denver, Col., July 2011.

Securities and Exchange Commission v. Lisa Berry, deposition testimony, San Francisco, Ca., May 2011.

Joel Krieger, et al., v. Wesco Financial Corporation, et al, deposition testimony, New York, N.Y., April 2011.

Silverman v. Motorola, deposition testimony, Washington, D.C., January 2011.

NACCO Industries Inc., et al. v. Applica, et al., deposition testimony, New York, N.Y., December 2010.

In Re Le-Nature's Inc. Commercial Litigation, arbitration testimony, Pittsburgh, Pa., December 2010.

Securities and Exchange Commission v. Raj Sabhlok and Michael Pattison, trial testimony, San Francisco, Ca., September 2010.

Securities and Exchange Commission v. Angelo Mozilo, David Sambol and Eric Sieracki, deposition testimony, Chicago, Ill., July 2010.

In Re Le-Nature's Inc. Commercial Litigation, deposition testimony, New York, N.Y., June 2010.

In Re John Q. Hammons Shareholder Litigation, trial testimony, Georgetown, Del., June 2010.

In Re John Q. Hammons Shareholder Litigation, deposition testimony, New York, N.Y., April 2010.

Securities and Exchange Commission v. Raj Sabhlok and Michael Pattison, deposition testimony, San Francisco, Ca., December 2009.

LDK Solar Securities Litigation, deposition testimony, San Francisco, Ca., December 2009.

Makor Issues & Rights Ltd. v. Tellabs, Incorporated, deposition testimony, Chicago, Ill., October 2009.

Rogers et al. v. Baxter International, et al., deposition testimony, Chicago, Ill., September 2009.

Mainstay High Yield Corporate Bond Fund v. Heartland Partners et al., deposition testimony, New York, N.Y., September 2009.

In re Metropolitan Securities Litigation, deposition testimony, New York, N.Y., September 2009.

27001 Partnership, et al. v. BT Securities Corporation, et al., deposition testimony, New York, N.Y., August 2009.

Securities and Exchange Commission v. Biovail Corporation et al., deposition testimony, New York, N.Y., July 2009.

Silverman v. Motorola, et al., deposition testimony, Washington, D.C., June 2009.

Board and Committee Memberships

NASD ATC Advisory Committee, 2006-2007.
Shadow Financial Regulatory Committee, 2003-2007.
Allegheny Institute, 2005-present.
Aristech Receivables, 1998-2001.
Weirton Receivables, 1993-2001.
Borden Receivables, 1994-1996.
Carbide/Graphite Group Receivables, 1993-1996.
Economic Advisory Board, The Nasdaq Stock Market, 1996-1998.
Academic Advisory Council, Turnaround Management Association, 2000–present.
Advisory Board, Mobot Inc., 2000.

Journal and Other Refereeing

American Economic Review, *Economic Inquiry*, *Economic Journal*, *Financial Management*,

Harvard Business School Press, *Irwin Publishing*, *Journal of Accounting, Auditing and Finance*, *Journal of Business*, *Journal of Comparative Economics*, *Journal of Corporate Finance*, *Journal of Economics and Management Strategy*, *Journal of Finance*, *Journal of Financial Economics*, *Journal of Financial and Quantitative Analysis*, *Journal of Law and Economics*, *Journal of Law, Economics, and Organization*, *Journal of Managerial Accounting Research*, *Journal of Political Economy*, *Management and Decision Economics*, *National Research Council Canada*, *National Science Foundation*, *Quarterly Journal of Economics*, *Rand Journal of Economics*, *The Accounting Review*, *The Financial Review*, *University of Chicago Press*.

University Service

Committee on Business School Centers (chair), 2011-2012.
Dean Search Committee for Katz School of Business, 2005-2006.
Promotion and Tenure Committee, Katz Graduate School of Business, 2004-2006., 2008-present.
Distinguished Faculty Committee, 2003-2005.
Executive Committee, Katz Graduate School of Business, 1994-1995 (co-chair); 1998-2001 (co-chair, 2000); 2008-present.
Appeals Panel for Grievance over Denial of Tenure (chair), 1999.
Steering Committee for University's Reaccreditation with Middle States Association, 1999.
Promotion and Tenure Committee, Katz Graduate School of Business, 1999-2001.
Dean Search Committee for Katz Graduate School of Business, 1995.
Internal Review Committee for Economics Department (chair), 1994.
Faculty Appointment Committee, Katz Graduate School of Business, 1993-1994.
MBA Curriculum Committee, Katz Graduate School of Business, 1993.
Retirement Subcommittee, 1992-1993.
Doctoral Policy Committee, Katz Graduate School of Business, 1991-1993; 2003-2005.

Other Professional Service

Founding Editor, *Journal of Corporate Finance*, 1992-2001.
Associate Editor, Investment Management and Financial Innovations, 2004-2006.
Associate Editor, *Journal of Financial Research*, 1999-2005.
Associate Editor, *The Financial Review*, 1998-2003.
Associate Editor, *Asia-Pacific Journal of Accounting & Economics*, 2000-2003.
Associate Editor, *International Journal of the Economics of Business Economics*, 1994-present.
Associate Editor, *Pacific-Basin Finance Journal*, 1992-1996.
Editorial Board, *Investment Management and Financial Innovations*, 2004-2006.
Advisory Board, *Financial Economics Network*, 1994-present.
Advisory Board, *Journal of Financial Abstracts*, 1994-present.
Advisory Board, *Corporate, Securities, and Finance Law Abstracts*, 1996-present.
Advisory Board, *The Financier*, 1994-2003.
Advisory Board, *The Arbitrageur*, 1998-2003.
Program Committee, 1992, 1993 Pacific Basin Conferences.

Program Committee, 1992 Western Finance Association Meetings.
Program Committee, 1992, 1996, 2007 Financial Management Association Meetings.

Seminar and Conference Presentations

AEI-Brookings Joint Center for Regulatory Studies, Allegheny County Bankruptcy Symposium, American Economic Association, American Enterprise Institute, American Finance Association, American Management Association, American Society of Appraisers, Arizona State University, Boston College, California Polytechnic University, Canadian Law and Economics Association, Clemson University, Columbia University, U.S. Department of Justice, DePaul University, Drexel University, Duquesne University, Federal Reserve Bank of Atlanta, Federal Reserve Bank of Chicago, Federal Reserve Bank of New York, Federal Reserve Bank of San Francisco, George Mason University, Georgetown University, Georgia Institute of Technology, Harvard University, Hofstra University, Indiana University, Massachusetts Institute of Technology, Michigan State University, National Bureau of Economic Research, Networks Financial Institute, North Carolina State University, Northeastern University, Northwestern University, Oberlin College, Ohio State University, Ohio University, Pennsylvania State University, Purdue University, Queens University, Southern Methodist University, Texas A&M University, Tulane University, U.S. Chamber of Commerce, U.S. Department of Justice, U.S. Federal Trade Commission, U.S. Securities and Exchange Commission University of California (Los Angeles), University of California (Santa Barbara), University of Chicago, University of Delaware, University of Florida, University of Illinois, University of Kansas, University of Maryland, University of Michigan, University of Missouri, University of Missouri (St. Louis), University of North Carolina, University of Notre Dame, University of Oregon, University of Pennsylvania, University of Rhode Island, University of Rochester, University of South Carolina, University of Southern California, University of Texas, University of Texas (Dallas), University of Utah, University of Virginia, Washington University (St. Louis).

Exhibit 2
Documents Considered

Document Title	Bates / Source	Date
Legal Pleadings and Expert Reports		
Complaint, *Joseph P. Danis v. Ernst & Young, LLP, et al.*		4/10/2010
Third Amended Class Action Complaint for Violations of the Federal Securities Law, *in re: Lehman Brothers Securities and ERISA Litigation*		4/23/2010
Complaint, *Michael Lane, et al. v. Advisors Asset Management, Inc., et al.*		4/26/2010
Complaint, *Epstein Real Estate Advisory Retirement Trust and Ben Joseph Trust v. Richard S. Fuld, Jr., et al.*		7/21/2010
Small Claims Writ and Notice of Suit, *William Reeves v. Ernst & Young*		2/4/2011
Plaintiff's Claim and ORDER to Go to Small Claims Court, *Phil Walker and Lorraine Walker v. Ernst & Young, LLP*		2/4/2011
Amended Complaint, *Starr International U.S.A Investments LC and C.V. Starr & Co., Inc. Trust v. Ernst & Young, LLP*		10/4/2011
Amended Complaint Alleging a Claim for Monetary Damages Caused by the Negligence, Fraud, Misrepresentation and Violation of Securities Act Sections 11, 12, and 15, *Sylvia Remer v. Richard S. Fuld, Jr., et al.*		10/6/2011
Amended Complaint for Violation of the Federal Securities Laws and Washington State Law, *Washington State Investment Board v. Richard S. Fuld, Jr., et al.*		10/6/2011
Second Amended Complaint, *The State of New Jersey, Department of Treasury Division of Investment v. Richard S. Fuld Jr., et al.*		10/7/2011
Consolidated First Amended Complaint for Damages, *City of South San Francisco v. Citigroup Global Markets, Inc., et al.* ; *City of Long beach v. Fuld, et al.* ; *County of Tuolumne v. Ernst & Young, LLP, et al.* ; *City of Fremont v. Citigroup Global Markets Inc., et al.* ; *City of Alameda v. Ernst & Young, LLP, et al.* ; *City of Cerritos v. Citigroup Global Markets, Inc., et al.*		11/28/2011
Second Amended Complaint for Violation of the Federal Securities Laws, *California Public Employees' Retirement System v. Fuld, et al.*		11/29/2011
Amended Complaint, *Fifty-Ninth Street Investors LLC, and Arthur N. Abbey v. Ernst & Young LLP, et al.*		11/29/2011
Amended Complaint, *Avi Schron, et al. v. Ernst & Young LLP, et al.*		11/29/2011
Consolidated First Amended Complaint, *Vallejo Sanitation and Flood Control District v. Fuld, et al.* ; *Mary A. Zeeb, Monterey County Treasurer, on Behalf of the Monterey County Investment Pool v. Fuld, et al.* ; *Contra Costa Water District v. Fuld, et al.* ; *City of Burbank v. Fuld, et al.* ; *City of San Buenaventura v. Fuld, et al.* ; *City of Auburn v. Fuld, et al.* ; *The San Mateo County Investment Pool v. Fuld, et al.* ; *Zenith Insurance Company v. Fuld, et al.*		11/29/2011
Plaintiff's Amended Complaint, *State Compensation Insurance Fund v. Richard S. Fuld, et al.*		11/29/2011
Plaintiffs' Second Amended Complaint, *American National Insurance Company, et al. v. Richard S. Fuld, Jr., et al.*		
Opinion on Motion to Dismiss, *in re: Lehman Brothers Securities and ERISA Litigation*		7/27/2011
Expert Report of Professor Allen Ferrell, *In Re Lehman Brothers Securities and ERISA Litigation*		10/18/2013
Expert Report of William J. Chambers, Ph.D., *In Re Lehman Brothers Securities and ERISA Litigation*		10/18/2013
Statutes		
15 U.S.C. § 77k		
Depositions		
Deposition of Anne Lemire, with Exhibits		8/19/2013
Deposition of Anuraj Bismal, with Exhibits		5/28/2013
Deposition of Bart McDade, Vol. I, with Exhibits		6/20/2013
Deposition of Bart McDade, Vol. II, with Exhibits		6/21/2013
Deposition of Charles Tovstein, with Exhibits		8/28/2013
Deposition of Christopher O'Meara, Vol. I, with Exhibits		9/19/2013
Deposition of Christopher O'Meara, Vol. II, with Exhibits		9/20/2013
Deposition of Debbie Kukta, with Exhibits		8/23/2013
Deposition of Edward Matthews, with Exhibits		7/10/2013
Deposition of Edward Stephen Grieb, with Exhibits		5/16/2013
Deposition of Erin Callan, Vol. I, with Exhibits		9/17/2013
Deposition of Erin Callan, Vol. II, with Exhibits		9/18/2013
Deposition of Ian Lowitt, Vol. I, with Exhibits		10/1/2013
Deposition of Ian Lowitt, Vol. II, with Exhibits		10/2/2013
Deposition of John Feraca, Vol. I, with Exhibits		6/18/2013
Deposition of John Feraca, Vol. II, with Exhibits		6/19/2013
Deposition of Kenneth Spray, with Exhibits		8/20/2013

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Documents Considered

Document Title	Bates / Source	Date
Deposition of Kevin A. Winter, with Exhibits		6/4/2013
Deposition of Mary Zeeb, with Exhibits		8/22/2013
Deposition of Michael McGarvey, with Exhibits		5/9/2013
Deposition of Paolo Tonucci, Vol. I, with Exhibits		7/2/2013
Deposition of Paolo Tonucci, Vol. II, with Exhibits		7/3/2013
Deposition of Robert Azerad, with Exhibits		7/24/2013
Deposition of William Clark, with Exhibits		7/23/2013
Deposition of William Kennett, with Exhibits		7/19/2013
Produced Documents		
"LEH to Raise $6 Billion of Capital, Preannounces 2Q2008 Results," Goldman Sachs	LBEX-DOCID 15863	6/9/2008
Repo 105 and Repo 108 Data Q4 2007	LBEX-DOCID 3219746	
Repo 105 and Repo 108 Data Q1 2008	LBEX-DOCID 3219760	
Repo 105 and Repo 108 Data Q2 2008	LBEX-DOCID 2078195	
Expert Report of Gregg A. Jarrell, PhD., , *In Re Lehman Brothers Securities and ERISA Litigation* and all related produced documents		2/3/2012
Analyst Reports		
Lehman Brothers rating's Buy. Target Price $85.00	Punk Ziegel & Company	8/7/2006
Lehman Brothers rating's Buy. Target Price $79.00.	Punk Ziegel & Company	8/16/2006
Cutting 2H06 Est. By 5%, But Keeping FY07 Unc.	Fox-Pitt Kelton Cochran Caronia Waller	9/5/2006
Lehman Brothers Upgrading To Buy 2 (Buy 2) Schorr	UBS	9/5/2006
Fixed Income Proves (Again) To Be The Safest Port In Any Storm	Bank of America	9/13/2006
Raising '06 & '07 Estimates on Strong 3Q Results.	The Buckingham Research Group	9/13/2006
Record Third Quarter Results Despite Turbulent Environment	CIBC World Markets	9/13/2006
Good 3Q06 Results, See Positive Near Term Momentum	Citi	9/13/2006
First Impressions	Credit Suisse	9/13/2006
Quick Take – Beats Our Est By 4%.	Fox-Pitt Kelton Cochran Caronia Waller	9/13/2006
EPS resilient in a tough period	Merrill Lynch	9/13/2006
Lehman Brothers rating's Market Perform. Target Price $79.00.	Punk Ziegel & Company	9/13/2006
Solid FICC And European Results Drive FQ3 2006	Wells Fargo Securities	9/13/2006
Lehman Brothers-Solid results prompt upgrade in estimates, target price.	HSBC	9/14/2006
Raising 06E 07E after solid 3Q	Merrill Lynch	9/14/2006
Steady Returns Growth Continue (Buy2) Schorr	UBS	9/14/2006
Adding to Focus 1 list	Merrill Lynch	9/18/2006
Highlights from Lunch with Lehman Brothers CAO David Goldfarb.	CIBC World Markets	9/29/2006
Making its Mark in Equities.	Credit Suisse	10/16/2006
Lehman Brothers Still A Growth Story – Meetings with Equities IB Management	UBS	10/16/2006
LEHMAN BROTHERS Int'l Product expansion continues	Merrill Lynch	11/20/2006
Conference Call With CEO Of Europe_Asia	Prudential Equity Group	11/28/2006
LEH 4Q06 Preview Nudging Est. Up 2% to $1.76.	Fox-Pitt Kelton Cochran Caronia Waller	12/1/2006
Tweaking Estimates Ahead of Quarter But Raising 2007 Outlook	CIBC World Markets	12/4/2006
F4Q06 Solid Results, But Lacks the Leverage Seen at Peers	JPMorgan	12/13/2006
Solid Qtr Closes Out Record Yr, Though Weaker Than Peers Reit Neutral	Bank of America	12/14/2006
LEH Exceeds Expectations, Powered By Highest Quarterly Revenues Ever	CIBC World Markets	12/14/2006
LEH Strong 4Q06 Results Positive 2007 Outlook	Citi	12/14/2006
4Q06 Quick Take Between Our Est. and Consen.	Fox-Pitt Kelton Cochran Caronia Waller	12/14/2006
First Read Lehman Brothers Straight Up Solid Quarter (Buy 2) Schorr.	UBS	12/14/2006
LEH Raising FY07 And Introducing FY08 EPS Estimates.	Wells Fargo Securities	12/14/2006
4Q06 Investment Spend in '06 Means Payback in '07; Raising EPS.	The Buckingham Research Group	12/15/2006
LEHMAN BROTHERS Solid 4Q06 maintain 07E	Merrill Lynch	12/15/2006
Lehman Brothers Solid Across the Board (Buy 2) Schorr.	UBS	12/15/2006
Lines of Credit Lehman Brothers - 4Q06 Review.	UBS	12/18/2006
LEH: Mgmt Meetings Focus on Mortgage and Equities	Fox-Pitt Kelton Cochran Caronia Waller	1/11/2007
Business is Great	Punk Ziegel & Company	1/12/2007
Huge Buyback... Same as Last Year	Credit Suisse	2/1/2007
Credit Suisse Fin'l Services Forum Highlights	Credit Suisse	2/7/2007
Business Continues to be Great	Punk Ziegel & Company	2/14/2007
2006 10-K Tidbits; Constructive Outlook On Solid Fee Backlogs; Risk Appetite Continues To Rise; Europe Tracking Better Than U.S.	Bank Of America	2/22/2007

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Documents Considered

Document Title	Bates / Source	Date
LEH: Raising 1Q07 Est. to $2.06	Fox-Pitt Kelton Cochran Caronia Waller	3/1/2007
Focus on renewing mkt share gains, growing globally	Merrill Lynch	3/13/2007
As Battle of Sub-prime Rages On, We Continue to See More Hype than Reality; Tweaking FY'07 EPS and Maintain Neutral	Bank of America	3/14/2007
Solid Qtr But Not Good Enough To Soothe Sub-Prime Nerves	Bank of America	3/14/2007
Research Note for March 14, 2007	The Buckingham Research Group	3/14/2007
1Q07 Results: Meets the Street With Record Results, Mgt. Has Upbeat Outlook	CIBC World Markets	3/14/2007
LEH: Subprime Exposure Manageable, But Still A Near-Term Headwind	Citi	3/14/2007
First Impressions	Credit Suisse	3/14/2007
LEH: 1Q07 Quick Take: Strong, But "Just In Line" Quarter	Fox-Pitt Kelton Cochran Caronia Waller	3/14/2007
LEH: Solid 1Q07, But Mtg and Int'l Expansion Costs Remain Our Concern	JPMorgan	3/14/2007
Makes consensus; IB sluggish, no sub-prime issues evident	Merrill Lynch	3/14/2007
LEH: 1Q07 EPS	Prudential Equity Group	3/14/2007
Offshore Business Becomes Very Important	Punk Ziegel & Company	3/14/2007
Consistent Growth, But Tough Comps	UBS	3/14/2007
LEH: Upgrading To Outperform, As Risk/Reward Profile Improves	Wachovia	3/14/2007
LEH | Q1 2007 - Goldman is a Tough Act to Follow	Bernstein Research	3/15/2007
Limited sub-prime fallout, IB sluggish; maintaining estimates	Merrill Lynch	3/15/2007
Growth Story Continues Despite Headwinds	UBS	3/15/2007
LEH: DROPPING COVERAGE	Prudential Equity Group	3/20/2007
Highlights from LEH Management Meeting in London	CIBC World Markets	3/28/2007
Initiating coverage with a Buy rating	Deutsche Bank	4/11/2007
10-Q Tidbits; No Sub-Prime Contagion, Fee Backlogs Up From Yr-End	Bank of America	4/12/2007
Valuations and Other Issues	Punk Ziegel & Company	4/13/2007
The View from the Top	Credit Suisse	4/18/2007
The View from the Top (full report)	Credit Suisse	5/1/2007
Meeting w/ CEO	Deutsche Bank	5/1/2007
LEH: Caught Up With CFO -- Business Prospects Remain Solid	Wachovia	5/2/2007
What do Lehman Investors See that Dow Investors Do Not	Punk Ziegel & Company	5/16/2007
LEH: 2Q07 Preview—Cutting FY07 By 3%	Fox-Pitt Kelton Cochran Caronia Waller	5/18/2007
Growing Right Through Mortgage Market Woes; Raising Estimates	Bank of America	6/12/2007
Lehman Sets High Bar with 18% Upside Surprise Despite Tough Mortgage Market	Bank of America	6/12/2007
Research Note for June 12, 2007	The Buckingham Research Group	6/12/2007
Strength In Equities Shows That Investments Are Paying Off	Citi	6/12/2007
First Impressions	Credit Suisse	6/12/2007
LEH: 2Q07- Big Upside Surprise, Beats Our Est. By 10%	Fox-Pitt Kelton Cochran Caronia Waller	6/12/2007
Upside surprise demonstrates the power of global growth in capital markets	HSBC	6/12/2007
LEH 2Q EPS of $2.21 well ahead of ML est. of $2.00 and consensus of $1.87. Int'l revs. reached 48% of total; clearly the diversification helped	Merrill Lynch	6/12/2007
Lehman A Full Line Company	Punk Ziegel & Company	6/12/2007
Strong & More Balanced Than Expected	UBS	6/12/2007
LEH:Reported Record Q2 2007 Results; Reiterate Outperform Rating	Wachovia	6/12/2007
Record 2Q Results Despite U.S. Mortgage Slowdown, Sets High Bar For Peers	CIBC World Markets	6/13/2007
Strong Results--Diversified Revenue Base Muted the Weakness in Fixed Income	JPMorgan	6/13/2007
Int'l investment paying dividends; raising ests.	Merrill Lynch	6/13/2007
Diversification/Expansion Story Kicks Into a Higher Gear	UBS	6/13/2007
Divergence	HSBC	6/14/2007
Business Plan	Ladenburg Thalmann	6/27/2007
Lehman Brothers Holdings, Inc. LEHMQ	Morningstar	6/27/2007
LEH: 10-Q Bits - Has Christmas Come In July? LEH Is Inexpensive	Wachovia	7/10/2007
LEH's Head of Fixed Income Strategy, Jack Malvey, Puts It All Into Perspective	CIBC World Markets	8/6/2007
Challenging Environment	Punk Ziegel & Company	8/7/2007
LEH: Lowering Ests. By About 10%, But No Doomsday	Fox-Pitt Kelton Cochran Caronia Waller	8/17/2007
At a glance – Lehman Brothers - The Fixed Income Specialist getting out of Subprime	nabCapital	8/23/2007
Making Sense	Punk Ziegel & Company	8/23/2007
Trimming Our 3Q Estimate to Mid-teens ROE; Expect Positive 4Q Outlook	CIBC World Markets	8/28/2007
Q3 Earnings Options Pair Trade – LEH & GS	Citi	9/5/2007
Fine Tuning Estimates	Credit Suisse	9/6/2007
Managing Through the Storm	UBS	9/11/2007

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Document Title	Bates / Source	Date
Fixed Income Weakness No Surprise, But Broad-Based Strength Stands Out	Bank of America	9/18/2007
What Doesn’t Kill You, Makes You Stronger? LEH Graduates Q3 With Aplomb; However, Lowering Est. On Near-Term Debt Sluggishness	Bank Of America	9/18/2007
LEH Beats 3Q Estimates and States "Worst Is Over"	CIBC World Markets	9/18/2007
Relatively Strong Quarter Despite Tough Credit Environment	Citi	9/18/2007
First Impressions	Credit Suisse	9/18/2007
3Q07 EPS a Touch Above but w/Questions - Quick Take	Deutsche Bank	9/18/2007
LEH: 3Q07 Quick Take: Strong Result, As We Expected	Fox-Pitt Kelton Cochran Caronia Waller	9/18/2007
LEH: 3Q07 Results Strong, Despite Aggressive Marking	Fox-Pitt Kelton Cochran Caronia Waller	9/18/2007
Diversity pays off	JPMorgan	9/18/2007
Revenues solid, tax and cost mgmt drive “beat”	Merrill Lynch	9/18/2007
Not Bad All Things Considered	UBS	9/18/2007
Research Note for September 19, 2007	The Buckingham Research Group	9/19/2007
3Q earnings find a reassuring balance	HSBC	9/19/2007
Unclear Credit Environment Limits the Upside	JPMorgan	9/19/2007
Risk mgmt. saves the quarter	Merrill Lynch	9/19/2007
At a glance – Lehman Brothers – Valuation Reductions deliver A better than expected 3Q07 and “The worst of this credit correction is behind us”	nabCapital	9/19/2007
Bad Quarter; Changed Environment	Punk Ziegel & Company	9/19/2007
Not a Bad Trough (Assuming it is One)	UBS	9/19/2007
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Document Title	Bates / Source	Date
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Drive for More Capital	Punk Ziegel & Company	4/1/2008
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Document Title	Bates / Source	Date
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